ETH zürich

infozentrum
Chemie | Biologie | Pharmazie

Infozine No. 30

The magazine for users of scientific information

The end of keyword searches and Boolean operators

For centuries, researchers searched using catalogs. For less than 30 years, people have been searching with Google, and most searches probably begin and end with the entry of no more than three words. Searches using Boolean operators, which are actually necessary in specialist databases, are considered too complicated by many and are therefore not used. With over 100 million publications, one will always find something to go on with. The hurdle is even higher for specialist databases where the content is indexed using a thesaurus, such as PubMed or Embase, the latter of which is licensed by ETH Zurich. Such searches are probably only carried out for systematic reviews, because publication of the search is mandatory, but even then usually only in the supplementary material, as in this example: PubMed: ("Textur*" AND "colo*" AND "enhanc*") OR ("texture*" AND "color enhanc*") OR "TXI"; Embase: #1 ('textur*' AND 'colo*' AND 'enhanc*') OR ('texture*' AND 'color enhanc*') OR 'TXI' – Aand, in this case, it was done without using the thesaurus.

Such search strings look daunting and, now that AI has been available for over a year, are unlikely to be used very often in future. The path from single-word searches to more or less well-formulated questions, often in the native language, will be irreversible. ChatGPT answers the question of how often single-word searches are performed with Google with 21.7% (2 words: 23.98%). Grok is more cautious with such a precise figure and states 20–25% of all search queries. Generative AI will prevail. Trust will become important. But can you trust generative AI? Trust and critical assessment will become increasingly important. Where does the content come from, does the system adapt, and does it try to meet my expectations and possibly preconceived opinions? Is the tool like an experienced person who understands and improves my question? That means asking follow-up questions that lead to a dialogue that increases the potential for insight, such as the *Go Deeper* function in Scopus AI. Is the tool answering what I actually wanted to ask but didn't know how to ask? This is especially true for those generative AI tools, which will replace specialist databases.

News from the ETH Library

Citing correctly: New guidelines for ETH Zurich

ETH Zurich's updated citation guidelines offer compact rules and helpful tips on how to cite correctly, as well as an overview of the topic of plagiarism and how to deal with generative AI and plagiarism. The PDF replaces the previous citation etiquette from 2007. The guidelines, which were developed by the ETH Library in coordination with the Academic Services (Education Legislation) and the Scientific Integrity Office, covers the most important rules for citation, explains terms such as source, reference or citation style, and provides an overview of the different types of plagiarism and their consequences. Information on the use and declaration of generative artificial intelligence technologies complement the guidelines.

Fancy some reading material? 'The New Yorker' is now accessible

ETH Library is now offering the weekly magazine *The New Yorker* to all ETH members. The magazine offers its readers a mix of reports on politics, business, technology, popular culture, art, humor, fiction, poetry and cartoons. It can be accessed via ETH-Bibliothek @ swisscovery and includes all issues since October 5, 2015 as well as the current issues from 2025. The Flipster website https://flipster.ebsco.com also provides access to another magazine licensed by ETH Zurich, *Science News*.

AI tools for scientific work – now available as a self-study course

The ETH Library is offering a new self-learning course on Moodle to explore generative AI and AI-based tools in more depth. The self-learning course AI-based tools for scientific writing and research is aimed at all ETH members who want to expand their research, reading and writing skills using modern AI tools. It gives you a comprehensive overview of the AI tools currently available and their strengths and weaknesses. Among other things, you will learn

- how large language models (LLMs) work and what opportunities and risks they present,
- tips for effective prompting and practical use cases,
- how you can create your own AI tools,
- how to read and write scientific texts with AI support,
- how LLMs can be used for learning and research,
- how to maintain scientific integrity and avoid plagiarism and other ethical risks when using them.

The course offers not only in-depth content but also interactive exercises to explore specific topics in more detail, such as creating your own AI bots or AI-supported literature search. In addition, the ETH Library provides monthly updates on new tools, best practices and current developments in the field of generative AI, so you can stay up to date with the latest developments. The course will remain under construction throughout the spring semester, with new topics continuously being added, but it is already available with the most important modules on Moodle at all times.

Boost your skills in research data management!

The ETH RDM Summer School, this year taking place from June 2–6, 2025 furnishes early-career scientists with a comprehensive understanding of research data management. Following a practice-oriented approach, you will learn the basics and the most important tools and boost your FAIR Data skills. Doctoral students can gain 2 ECTS points. Registration and Information: ETH Research Data Management Summer School 2025.

No agreement yet with Wiley: ETH Library offers transitional solutions for non-contractual situation

The national negotiations of swiss-universities with the scientific publisher Wiley (including *Advanced Materials* and *Angewandte Chemie*) have not yet led to an agreement. Together with the other affected universities, the ETH Library is preparing for a situation in which there is no contract from January 2025. Reading access to Wiley media should continue to be available during the negotiations. However, in the event of a "no-deal'" access to content from 2025 could be restricted. The ETH Library will provide ongoing information as the negotiations progress.The costs for articles in Wiley's pure gold open access journals will continue to be covered by the ETH Library despite the lack of a contract. As before, requests can be submitted via Wiley's existing workflow for ETH members. In contrast, from January 2025, publishing in hybrid journals will temporarily only be possible in closed access form. The ETH Library will not finance open access fees in such journals during the contract-free period. However, it aims to retroactively convert all accepted articles in 2025 to open access publications when a contract is signed.

Create Digital Reading Lists Quickly and Easily with Leganto

Leganto is the ideal tool for creating and managing literature lists for your courses centrally and sharing them with students. You can integrate books, articles, multimedia and external websites as well as your own materials such as presentations or exercise files. The direct connection to Moodle saves you time: link licensed media automatically and easily submit digitisation or purchase requests to the ETH Library. Thanks to the seamless connection to the ETH Library, you can take relevant titles directly from the catalogue and have availability or online access clearly displayed. Get started now and discover how Leganto can enrich your teaching.

Further information on Leganto and how to create a list can be found on the website of the ETH Library or in the manual or contact the Leganto team by e-mail at leganto@library.ethz.ch.

DeepL with new feature and tab Clarify

The editor of Infozine is a big fan of DeepL, especially since one of the Norwegian languages got added to the portfolio of more than 30 languages. Now there is a new cool feature, a new tab called *Clarify* (figure right). This advanced Language AI recognizes context and asks you the right questions to ensure a personalized translation for your context while minimizing the risk of miscommunication – and no language expertise is required. You may even realize that your initial writing may be misleading. If you have the Pro Version (available at ETH Zurich through the IT Store), you have access to *Clarify*. Try it!

Scopus AI with history

Scopus AI is now fully optimized for mobile devices, and, when logged in, saves and displays your search history. You can re-run questions, delete queries, or rename queries. The conversation history is visible only once you started with a question. You can also choose Temporary Conversation. This conversation won't get stored in your history.

STM provides draft for AI use in manuscripts

STM, the global trade association for academic and professional publishers, has released a draft report, *Recommendations for a Classification of AI Use in Academic Manuscript Preparation*, developed by the STM Association's Task & Finish Group on AI Labelling Terminology. This draft is now open for community consultation.

ASM MPDS

ETH Zurich has recently licensed the ASM Materials Platform for Data Science (asm.mpds.io) that is useful for material scientists and solid state organic chemists. The database replaces the former *ASM Alloy Phase Diagram* and contains data on binary and ternary, but also a number of higher order inorganic systems. Phase diagrams, crystal and bibliographic data can be explored. Searches can be performed via elements, sum formula, physical properties keywords, material class, and bibliographic data. Top-down searches of the whole data are possible, too and are done via filtering.
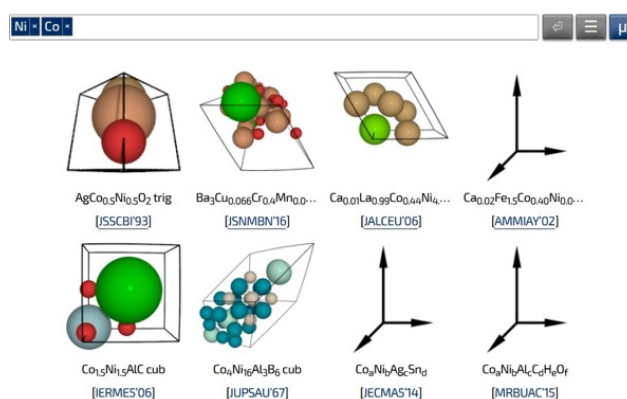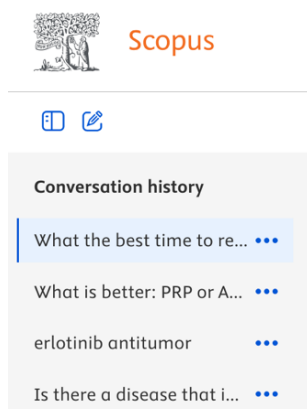
Wiley AI Guidelines for book Authors

Wiley, one of the three world's largest publishers released a set of guidelines on the responsible and effective use of artificial intelligence (AI) in authorship. In the new guidelines and accompanying FAQs, Wiley provides suggestions to authors on how to utilize AI tools in their manuscript preparation while preserving the author's authentic voice and expertise, maintaining reliable, trusted, and accurate content, safeguarding intellectual property and privacy, and meeting ethics and der integrity best practices. The FAQs that address the following topics:

- Where to start for those new to AI, including development of effective prompts.
- How to compare and analyze different AI tools, including for accuracy, privacy, and intellectual property.

App-Tipp

Forest

App tip for students and researchers

Are you part of the generation that gets distracted by smartphones, tablets, and PCs when you should be focusing on work? Do you find it difficult to achieve what you want to do?

With the *Forest* app, you can turn periods of focus into small forests: put your smartphone away and plant a digital tree – it will grow, but only as long as you stay focused.
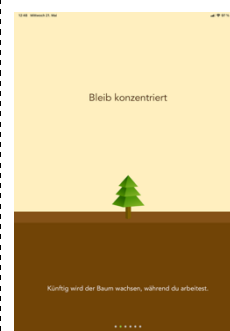
Distracted? A glance at your smartphone or tablet will cause it to wither. Your guilty conscience could help you stay productive and avoid distractions. As a bonus, you'll even be protecting the climate by planting real trees. Give it a try – your next writing marathon will be green!

Information: www.forestapp.cc/

For Google Play and the App Store.

AI tools from A to Z

On the following two pages, you will find AI tools that we believe may be useful to you. None of them are licensed by ETH Zurich, with the exception of Scopus AI. In addition, AI functions can be used in Web of Science and Dimensions (Dimensions Research GPT).

ChatPDF

ChatPDF (chatpdf.com) is a web-based platform where users can upload PDF files and ask questions about their content via an interactive chat interface. The application uses the OpenAI interface to access the ChatGPT model, but is limited to the content of the uploaded PDFs. This allows users to quickly and easily obtain important information about their documents.

Claude

Claude (claude.ai) is a next generation AI assistant built by Anthropic and trained to be safe, accurate, and secure to help you do your best work. You can e.g., create and revise websites, documents, graphics, and code alongside your chat with Claude artifacts.
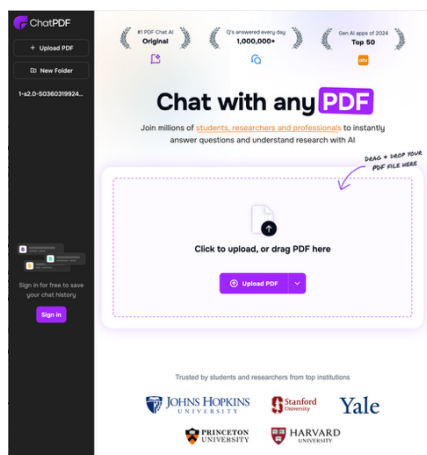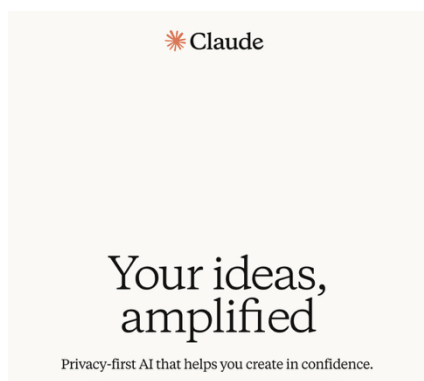

Consensus

Consensus (consensus.app) is an AI-powered search engine that filters scientific publications from a very extensive database and allows them to be searched quickly. Only peer-reviewed and published papers are examined in order to extract peer-reviewed publications from the professional literature. For yes/no questions, Consensus indicates the percentage of analyzed papers that support one opinion or the other. Summaries and links are also provided. Consensus is particularly suitable for teachers and students looking for reliable scientific information. It offers an ad-free alternative to conventional search engines based on open access sources.
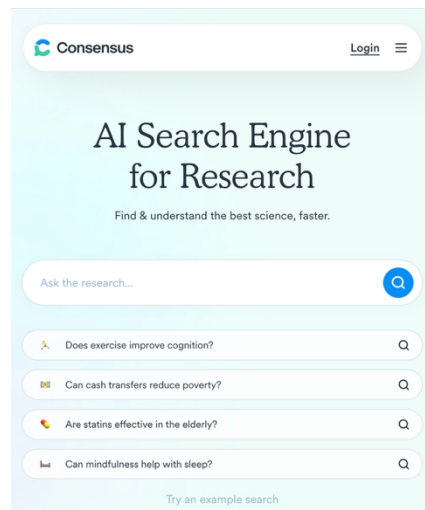
Elicit

Elicit.com, an AI-powered literature research tool, helps users find and analyze scientific articles quickly and efficiently. It starts with a research question, which is used by a GPT language model to filter relevant articles from the Semantic Scholar database, which contains over 125 million publications.
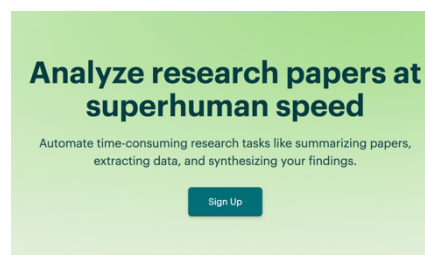
Grok

Grok, also available as an app, is a generative artificial intelligence chatbot developed by xAI. Based on the large language model of the same name, it was launched in November 2023 on the initiative of Elon Musk. The chatbot is advertised as having a "sense of humor" and direct access to sister platform X, formerly known as Twitter. When asked what Scopus AI is, Grok gave much better answers than ChatGPT and also had a much better understanding of its competitors.
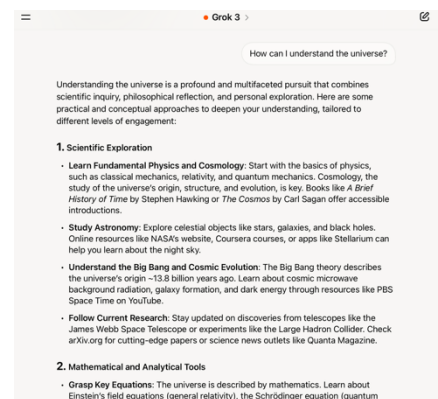
Keenious

Keenious (keenious.com) is an AI-based research tool that analyzes uploaded documents, entered text, or the content of a specified URL to find relevant research papers. It searches various databases and scientific resources to recommend suitable research results. Although the analysis is performed in English, the tool can process texts in almost 100 languages by using Microsoft Azure for translation into English.

NotebookLM

Google's NotebookLM is an AI-powered note-taking and research assistant for teachers and students. It is based on the Gemini family of language models and enables the processing and analysis of large amounts of text data. Uploaded sources such as text documents, PDFs, and websites can be queried via chat. In addition, summaries can be generated automatically, and interactive audio overviews and podcasts can be created.

Perplexity

Perplexity (perplexity.ai) is an AI-powered search engine that combines real-time internet search with advanced natural language processing to deliver accurate, source-based answers. It works like a chatbot and an intelligent search engine, providing direct answers, related topics, follow-up questions, and automatic source citations.

ResearchRabbit

ResearchRabbit (researchrabbit.ai) allows you to find literature using a keyword, publication title, or DOI number. Starting from a publication, a literature network of cited or similar publications is created. This literature network is interactive and clickable.

Research Rabbit's search starts from a given document and searches for similar publications. Each literature reference is provided with a link and can be exported for literature management systems.

Statista Research AI

Statista Research AI, an AI tool from Statista, combines Statista's extensive data sets with Claude's LLM technology (3 Sonnet). After entering a prompt, it generates a response based on up to 10 relevant sources. Statistics and infographics are integrated into the written responses, with sources highlighted to ensure traceability. Research AI also suggests personalized follow-up questions to further deepen the research.

Altmetric reports for researchers

As a researcher, your focus is getting research output that can be published, ideally in a major journal. Once published, you relax and focus on the next manuscript. But wouldn't it be nice to receive a weekly report providing an overview of mentions of your papers? Allowing you to see, how they got cited, mentioned in the media, in blogs, on social media or policy documents. Easy to analyze, with only a view clicks. This is possible as ETH Zurich has a license

for the Altmetric Explorer, another license probably not many know about. No need to go to each and every journal page to follow up your paper.

Just go to https://www.altmetric.com/, sign in with your ETH Zurich address, go to the blue Edit Search box on top, select *My institution only* and type in the "Leitzahl" of your department or your research group. Run a search and save the search. Go into *Saved searches*, and selected either daily, weekly, or monthly reporting and you get e-mail alerts like the one below for the entire chemistry department. You could even monitor your competitors.

STM Trends 2029

The newly released visualization STM Trends 2029 presents a forward-looking perspective on the evolving landscape of scholarly communication. At the center of this year's insights is the convergence of artificial intelligence, increasing fragmentation, and growing concerns over trust in research.

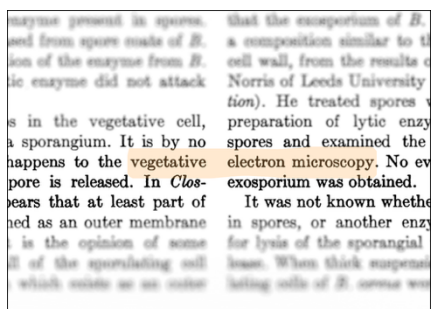## Entertaining facts from the world of scientific communication

Publications are corrected or even retracted for a variety of reasons. Mostly it is due to errors or fraud, but the pressure to cite certain works in one's publication is rarely the reason for retraction. A paper published in the *International Journal of Hydrogen Energy* contained the following sentence: *As strongly requested by the reviewers, here we cite some references [35-47] although they are completely irrelevant to the present work*. This caught the public's attention. The authors, in consultation with the Editor-in-Chief, withdrew the paper and were invited to resubmit the paper to receive proper peer review.

paper is arranged as follows. In Section 2, we describe the method and computational details. In Section 3, we present the solution energy, crystal structure, and electronic structure from the calculations. In Section 4, we discuss the physical origin of the distinct site occupations of H in Ti and Zr/Hf. Finally, we conclude our work in Section 5.

As strongly requested by the reviewers, here we cite some references [35–47] although they are completely irrelevant to the present work.

What is vegetative electron microscopy?

In February 2025, *Retraction Watch* (https://t1p.de/ea840) reported on a paper containing the phrase "vegetative electron microscopy". This apparent microscopy technique does neither make sense nor exist, but still, Google Scholar currently lists 29 papers containing the nonsense phrase. Supposedly, the phrase originates from an older paper where it was spread out over 2 columns and entered the common vocabulary via the training of an LLM. This is not definitive proof, but the lack of alternative explanations makes it a plausible one. Be careful with what you copy from the output of a large language model!

enzyme present in spores.
ed from spore coats of *B.*
ion of the enzyme from *B.*
ic enzyme did not attack

s in the vegetative cell,
a sporangium. It is by no
happens to the vegetative
pore is released. In *Clos-*
ears that at least part of
ned as an outer membrane
i is the opinion of some

that the exosporium of *B.*
a composition similar to the
cell wall, from the results of
Norris of Leeds University
tion). He treated spores
preparation of lytic enzy
spores and examined the
electron microscopy. No ev
exosporium was obtained.

It was not known whethe
in spores, or another enzy
for lysis of the sporangial

Fabric pattern collection A. Jenny-Trümpy digitized

The collection of fabric pattern books by Swiss Jenny-Trümpy samples fabric from past centuries and is of interest not only to chemists, but also to designers, artists, fashion designers, and anyone interested in the history of industrial development.

Between 1907 and 1934, Swiss textile manufacturer and chemist Adolf Jenny-Trümpy 1855–1941) compiled nine copies of a series of colorful, annotated fabric sample books that showed how textile printing worked. If you flip through the books, you will find a colorful treasure trove of graphic samples (with patterns from the 18th to the 20th century) printed on various types of textiles.

He glued the fabric samples into the books, which he supplemented with careful handwritten notes and explanations. The volumes also contain detailed information on the chemistry and synthesis of the dyes used, the dyeing conditions, and the history of color chemistry, which was not only based on organic chemistry but also used metal dye complexes.

He bequeathed 17 volumes of one set to the *Chemie-Schule des eidgenössischen Polytechnikums*, where research on dyes such as indigo was carried out for many years. The other five books in this set are in the Collection Center in Affoltern. In order to preserve the fragile books, some of which are over a hundred years old, and to ensure that they can continue to serve their purpose in the future, Public Relations D-CHAB started a digitalization project. The 17 volumes of the D-CHAB collection were completely digitized, transcribed, and transferred to a freely accessible online catalog developed, designed, and programmed by Dr. Maria Pechlaner from the Information Center. The catalog makes it possible for everyone in the world to rediscover Adolf Jenny-Trümpy's collection: By browsing through the volumes, each dedicated to a specific theme, or by searching the transcribed manuscript using the full-text search, filtering by the predominant color of a textile, using the zoom function, or by downloading the patterns in high resolution (*CC BYNC license*). Enjoy the catalog available in English and German (handwritten content by Jenny-Trümpy is only available in Germany).
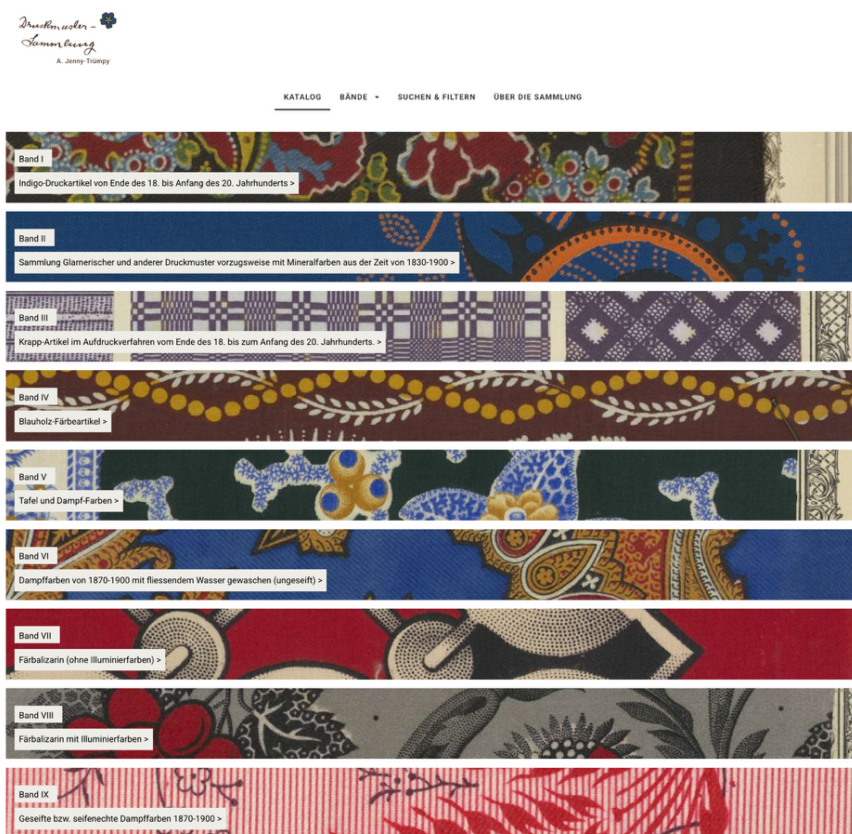
The latest books from the Information Center

The Information Center focuses on teaching information literacy in the wide range of digital offerings for information research, analysis, management, and discovery. Of course, books are also part of our offering. No special skills are required to read them, only time. We realize that time is of the essence. However, you may be able to save time with the new AI tools in Word and Office or, if you are an Apple user, with Apple Intelligence, giving you more time to discover and read our new books. You can do this without visiting the library by checking our website. Either look at the new release posters or browse our catalog for titles selected by the information consultants. Using https://infozentrum.ethz.ch/katalog, you will find a daily update of new acquisitions. These may also be older, as we receive bequests and donations. And, of course, we also continue also the monthly new release posters.

Autor(en)	Titel	Jahr	Standort	e-Book
Sougata Jana	Biopolymers in Pharmaceutical and Food Applications	2025	370 C, 370 C	
Rote Liste Service GmbH	Rote Liste : Arzneimittelverzeichnis für Deutschland (einschliesslich EU-Zulassungen und bestimmter Medizinprodukte)	2025	102 B, H 474 2D	
Japkowicz Nathalie; Boukouvalas Zois	Machine Learning Evaluation: Towards Reliable and Responsible AI	2025	571 B	▣
Gaddis Tony	Starting Out with Java : From Control Structures through Objects	2025	572 D	
Wong Wai-Yeung; Ma Yun	Optical and Optoelectronic Polymers	2024	370 E	
Rojas Raúl	The Language of Mathematics : The Stories behind the Symbols	2025	408 D	
Balzani Vincenzo; Ceroni Paola; Juris Alberto	Photochemistry and Photophysics : Concepts, Research, Applications	2024	205 B	
Pievani Telmo; Kenyon Michael Gerard	Serendipity : The Unexpected in Science	2024	408 E	▣

The 34th Coffee Lecture series on YouTube

Did you miss the 34th series of Coffee Lectures? You can find these and previous Coffee Lectures as recordings on the Information Center's YouTube channel. Take advantage of this opportunity to acquire important tools without investing a lot of time. You can see the topics on the figure on the right.

Discover the top 2% of scientists worldwide

DataMeta Lab, an organization about which nothing can be found, uses Excel data from Stanford University and Elsevier and offers at their website https://top2percentscientists.com/se a search that allows users to check whether a particular person is among the top 2% of scientists. Apparently, there are enough people who purchase the certificate of verification.

Rank	Scholar	Institute
23901	Carreira, Erick M.	🎓 ETH Zürich
📅 2024		📍 CHE

Upcoming Changes at the Information Center

After 4,639 days, the time has come. Upon reaching the age of 65, **Dr. Oliver Renn** will have his last day of work on May 28, 2025, and will leave the Information Center, ETH Zurich, Zurich, and Switzerland the very same day. It has been an exciting time in which a lot has happened and a lot has changed, especially in recent years. Since the beginning of March 2025, he has been gradually handing over the reins to **Dr. Jozica Dolenc**, the new Head of the Chemistry | Biology | Pharmacy Information Center. Jozica Dolenc is also a chemist, who has been working at the Information Center already since 2013 and has helped shape the Information Center in its current form.
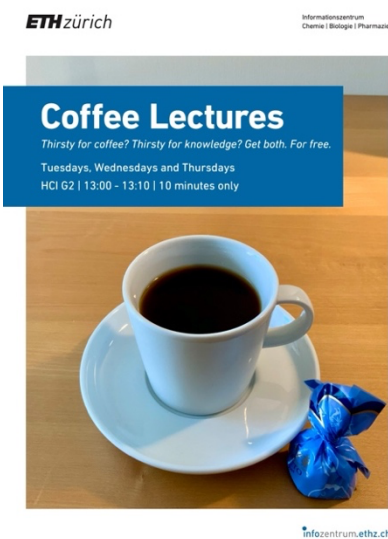
The 35th Coffee Lecture Series begins in June 2025

Every Tuesday, Wednesday, and Thursday for three weeks starting on June 10, 2025, at 1:00 p.m., there will be a 10-minute Coffee Lecture in HCI G2. Coffee will be served, of course. This series will feature two new internal speakers, Rahel Fischbach and Dr. Maria Pechlaner, as well as a colleague from the ETH Library, Roman Schurter.

The topics:
10.6.25	Electronic laboratory journals
11.6.25	Sharing reading lists with Leganto
12.6.25	ACD/Name – A nomenclature tool
17.6.25	Synthia
18.6.25	Swisscovery
19.6.25	Let's GIT going
24.6.25	Generative AI @ ETHZ
25.6.25	Find standards with norml
26.6.25	Obsidian goes Zotero

We look forward to seeing you there for a coffee. If you can't make it, the Coffee Lecture will also be broadcast live from G2 via Zoom. Guests are very welcome, the access URL is always the same: https://ethz.zoom.us/j/63020946312.

Corporate Sween on LinkedIn

Have you ever been on a PIP? If you follow Corporate Sween on LinkedIn (or Instagram or TikTok), you'll find out. The idea behind a performance improvement plan is to push an employee to their limits, and if they can

not keep up, they are out. Corporate Sween nicely illustrates this everyday corporate life in very funny short videos, often with real examples (this is a real scenario by a real person), which he edits accordingly. If you want to prepare yourself for what it's like out there, follow the account. Or do you recognize ETH Zurich in these videos?

Find quotes. Who said that?

Are you looking for current quotes from specific people or on specific topics from the media? Do you want to verify the source of a quote? The quote search engine (Zitatsuchmaschine) of the Institute for Computer Science at Humboldt University in Berlin continuously scans the website content of German-language journalistic media and, using AI models, extracts quotes that can then be found on the website in real time, tagged by topic and person. More than 10,000 quotes are added every day.