

SSM Lay Communication

Lay communication Projects by SSM Members:



Phages & Fascination: A Biozentrum Summer Story

The Summer Science Academy is an intensive two-week summer course held annually at the Biozentrum Basel for 20–25 high school students. **SSM member Alexander Harms** was instrumental in founding and organizing the program from 2019 until 2023, together with a local team. Although he and his lab are no longer involved since moving to ETH Zürich, the course continues in a similar format.

The project at the academy had focus on the **isolation and characterization of bacteriophages** from the Rhein River and other sources. Students performed plating experiments, transmission electron microscopy (TEM), and—partially outside the course—whole genome sequencing. With their "own" phages, students explore key biological questions, such as resistance to bacterial immunity and identification of host receptors. The hands-on approach fosters deep engagement, allowing participants to gain authentic experience in experimental science.

The course also features a reenactment of landmark phage experiments that led to the Nobel Prize in 1978 (awarded to Werner Arber of Biozentrum), guest lectures by scientists from across Switzerland, and visits to museums and both small and large life science companies.

Beyond the lab, the Academy inspired broader outreach activities, such as a **science-art exhibition** featuring colorized TEM images of phages taken by students, curated by PhD student and science artist **Fabienne Estermann**. Many of the phages isolated during SSA became part of published research:

<https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3001424>;

<https://www.biorxiv.org/content/10.1101/2024.09.12.612763v3>

After moving to ETH Zürich, Alexander Harms' lab continues to engage with high school students through **Matura projects** and recently received an SNSF Agora grant to support science outreach in Swiss schools. One student, **Nora Artico**, gained national media attention for her award-winning phage research project under Harms' mentorship: <https://www.bazonline.ch/19-jaehrige-mittel-gegen-superkeime-im-kot-von-zolli-tieren-985525374833>; <https://www.schweizer-illustrierte.ch/family/familien-geschichten/noras-maturaarbeit-wird-zur-sensation-785580>.

For more information, visit:

- [Biozentrum Summer Science Academy](#)
- [YouTube video \(English\)](#)
- [YouTube video \(German\)](#)
- [Press coverage \(in German\)](#)



Microbes for All Ages: Adrian Egli's Outreach from Kids to Seniors

From curious kids to engaged retirees, **SSM member Adrian Egli** has made it his mission to bring microbiology to the wider public through dynamic, age-spanning outreach. His presentations and workshops aim to demystify microbes, highlight the importance of genome sequencing, and foster a deeper understanding of how bacteria impact our health.

At the **Kinderuniversität**, Egli introduced children to microbiology with an engaging lecture titled *“Why Do Bacteria Make Us Sick?”* and led hands-on workshops exploring the microbiome. These sessions even included real-time DNA sequencing using **Oxford Nanopore technology**, giving young participants an exciting peek into modern genomics.

For adults, Egli delivered accessible lectures on the microbiome as part of both the **Science City** public lecture series and the **Seniorenuniversität**—demonstrating that it's never too early or too late to connect with science.



During the **Tag der offenen Tür** (Open House Day), Egli offered guided lab tours, giving visitors an inside look at ongoing research and the daily work of microbiologists. These efforts not only educate but also build trust and enthusiasm for science within the community.

From interactive sequencing with schoolkids to thought-provoking discussions with seniors, Adrian Egli's outreach exemplifies inclusive, lifelong science learning—making microbes relatable and relevant to all.



A Glimpse into Veterinary Medicine: Inspiring Future Vets with Microbiology

For high school students dreaming of becoming veterinarians, the **Vetsuisse Faculty at the University of Zurich** offers a hands-on introduction through its annual **Veterinary Medicine Info Day**. This half-day event is designed to provide a taste of university life, veterinary studies, and the scientific topics students will encounter during their future training.



As part of the program, **SSM member Hanna Marti** delivers a **30-minute “mock lecture” on bacteriology**, aimed at giving students a real feel for what a university-level lecture is like. The session introduces fundamental microbiology concepts before diving into the fascinating world of **chlamydiae**—including both **human pathogens and zoonotic infections** that are highly relevant to veterinary practice. The format mirrors an actual class lecture, helping prospective students imagine themselves in the role of future veterinary students.

Organized by the **Fachverein Veterinärmedizin** (Veterinary Student Association), the Info Day also includes **practical exercises**, Q&A sessions, and opportunities for students to connect directly with current veterinary students. Held at the Vetsuisse Faculty’s Zurich campus, the event draws young participants from across the region.

This initiative is a great example of how scientists and educators like Hanna Marti contribute to **lay science communication** by fostering early interest and confidence in scientific fields—even before university begins.

More information about the event is available at: www.vet.uzh.ch/de/studium.html



«Wir bieten unseren Studierenden sowohl eine exzellente universitäre Bildung als auch eine qualitativ hochstehende Einführung in veterinärmedizinische Tätigkeiten.»

Microbiology Across Generations: Bringing Science to Lifelong Learners



In a series of engaging public lectures, **SSM member Simona Huwiler** has been making science accessible and relevant to older adults, offering in-depth presentations on microbiology to audiences well beyond the traditional classroom. Her outreach efforts reflect a commitment to **lifelong learning** and public engagement with science.

Simona's talks—each approximately **50 to 60 minutes** long, followed by Q&A sessions—were delivered to a range of **senior education** programs across Switzerland and Liechtenstein:

- At the **Senioren-Kolleg Liechtenstein**, she presented to a group of retirees aged 60 and above, sparking curiosity and dialogue around microbial life and its impact on human health. Event link: <https://www.senioren-kolleg.li/programm/detail/25252>
- She gave a similar lecture at the **Seniorenuniversität Winterthur**, organized by **BiAW**, a program dedicated to continuing education for older adults. More info: <https://www.biaw.ch/uvw/>
- Additionally, Simona spoke at the **Naturforschende Gesellschaft Schaffhausen**, a scientific society known for its community-oriented events promoting natural sciences. <https://www.sh-nat.ch/agenda>

These events illustrate how scientific outreach can resonate across age groups, and how researchers like Simona play a key role in making microbiology not only **understandable**, but also **inspiring**, to the broader public.



Tracking Superbugs in Swiss Waters: AMR Surveillance Meets Public Awareness



Since 2020, **Dr. Christoph Jans** and his team at the **Cantonal Laboratory AVS** have been running a surveillance and response system targeting antimicrobial-resistant **(AMR) bacteria in surface water and wastewater** across the canton of Zug. This proactive initiative aims not only to monitor environmental health risks but also to inform and protect the public.

The project expanded in parallel to include a response component, enhancing the canton's ability to act on concerning findings in real time. In spring 2024, the team launched a **public outreach campaign** to communicate the findings and raise awareness about **safe recreational water use**—educating residents on **where and how to safely swim** in rivers and lakes.

The outreach materials, though currently available only in German, offer valuable information about **AMR hotspots**, health recommendations, and environmental hygiene. The campaign underscores the importance of transparent communication when it comes to public health and environmental microbiology.



Media: https://zg.ch/news/news~_2024_5_baden-in-fluessen-und-seen-im-kanton-zug-gewusst-wie-und-wo~.html (in German)

This effort reflects a growing recognition of the **One Health** approach—connecting environmental, animal, and human health—and highlights how surveillance data can empower communities when paired with clear, science-based communication.



Living with Microbes: How NCCR Microbiomes is Bringing the Invisible to Light

From museum halls to science festivals, the **NCCR Microbiomes** is making microbial life both visible and engaging for the public. Through a blend of interactive exhibitions, public lectures, and creative media, the center's outreach efforts invite Swiss communities to explore how microbes shape our lives.

A standout initiative is the **conference cycle "Bien vivre avec les microbes"** at the **Musée de la Main in Lausanne**, held alongside the long-running exhibition *Invisibles: La vie cachée des microbes*. Launched on **World Microbiome Day 2024**, this immersive experience brings science to life through artifacts, images, and storytelling—open to visitors until 2026.

Meanwhile, events like **Mystères de l'UNIL**, **Scientifica**, and **World Microbiome Day at the Alimentarium** draw hundreds of curious minds each year with hands-on booths and researcher-led presentations. At the international **ISME18 conference**, the NCCR hosted *Discover the Microverse*—a unique outreach blend of games, competitions, and Q&As with scientists.

These activities reflect a bold public mission: to connect scientific research with everyday experience and curiosity.

From Cards to Classrooms: NCCR Microbiomes Gets Creative with Communication

Outreach at **NCCR Microbiomes** goes beyond lectures—it's hands-on, artistic, and sometimes even gamified. One of the most inventive projects is **Bactaille**, a microbiology-themed **card game** designed by PhD student **Tania Miguel Trabajo**, now part of her doctoral thesis. In parallel, the **Microbiomes video game**, launched with classroom modules, offers an interactive way for students to explore microbial ecosystems.

Public engagement has extended to science film festivals, school talks, and popular events like **Pint of Science**. In education, NCCR researchers regularly contribute to newsletters like **Échos du Vivant**, reaching over **300 Swiss teachers**, and participate in science communication competitions including **Ma Thèse en 180 secondes** and **FameLab**.

Art-science collaborations are also central—such as the **Figure 1.A. exhibition** in Martigny and co-creative workshops with artists like **Sanja Saftic**. Meanwhile, science communication courses, like the **lay communication workshop in Neuchâtel**, equip young researchers with tools to connect with broader audiences.

Whether through video games, card decks, or museum walls, the NCCR's outreach celebrates a simple truth: **microbes are everywhere—and learning about them can be as creative as it is essential.**

Further information on NCCR Microbiomes Scientific Outreach: <https://nccr-microbiomes.ch/outreach/scientific-outreach/>

Other Featured Activities:

International Microbiology Literacy Initiative



Explore the comprehensive and entirely free selection of teaching resources inspiring, exciting and informing children and adults alike about microbes and their activities.

Source: <https://imili.org/>

ETH Science City events



Treffpunkt Science City is ETH Zurich's public science programme for all ages held in German. From kids' university to seniors' university and public lectures, the programme has something for everyone. The free events bring people from all generations together to experience the exciting world of research.

Source: <https://ethz.ch/en/news-and-events/events/treffpunkt.html>

Scientifica Zürich



ETH Zurich and the University of Zurich have been inviting the public to Scientifica since 2011. The city of Zurich has been a partner of Scientifica since 2021. Together with the two universities, it organizes the "Science and the City" series of events in the week before the event. Individual events take place at various locations in the city, with ETH and UZH researchers as well as employees from Zurich city departments and companies taking part.

Source: <https://ethz.ch/en/news-and-events/events/scientifica.html>

Pint of Science



Pint of Science brings some of the most brilliant scientists to your local pub to share their latest research and findings with you. You don't need any prior knowledge, and this is your chance to meet the people responsible for the future of science. The festival takes place annually over three days in the month of May simultaneously in over 400 cities across the world. Pint of Science Switzerland is a not-for-profit association run by volunteer scientists and science enthusiasts.

Source: <https://pintofscience.ch/>