

3 R Swiss 3R
C C Competence
Centre

3RCC ANNUAL REPORT 2023



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PRESIDENT'S REPORT

SIMONE DE
MONTMOLLIN
President of
the 3RCC



The Swiss 3Rs Competence Centre (3RCC) is continuously expanding its role in advancing humane and responsible research practices in Switzerland. This report reflects the commitment, diligence, and collaboration of our members and stakeholders, highlighting the significant progress made in 2023.

Firstly, I express sincere gratitude to our retiring Vice President, Christian Leumann of the University of Bern, for his remarkable dedication and unwavering support since the 3RCC's inception in 2018. We warmly welcome our new Vice President, Rolf Zeller from Basel University, whose extensive experience in the field of replacement, reduction and refinement will enrich our efforts in the coming two years.

In 2023, we allocated vital 3Rs funding, provided through various grants that foster development of innovative methodologies and promote their implementation. The launch of our 3Rs Doctorate Programme underscores

our commitment to nurturing the next generation of 3Rs researchers. A further notable milestones include the closure of the 2022 Targeted Call that will push 3Rs methodology implementation.

In 2023, we allocated
vital 3Rs funding, provided
through various grants that
foster development of
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and promote their
implementation.

Education remains pivotal to advancing 3Rs implementation and 2023 was a productive year marked by six webinars, four on-site trainings, and over 650 continuing profes-

sional education credits provided. In 2024, our focus will continue providing training in refinement and fostering a culture of care among researchers and animal caretakers.

We are taking steps to develop and enhance our communication strategy in collaboration with our members, aiming to broadening our communication offer to the public and provide better information on 3Rs and animal experimentation. Meanwhile, our communication efforts have expanded through various channels, including social media, newsletters, and public engagement events, enhancing our outreach to both professionals and the public. This will be elaborated in 2024 in partnership with University of Lausanne, EPFL and CHUV, focusing on animal use and replacement in oncology research alongside our scientific congress in Lausanne.

Strategic partnerships, both nationally and internationally, have facilitated knowledge exchange and contributed to the advancement of 3Rs principles globally. Milestones achieved in 2023 include the consolidation of the Culture of Care Network and the establishment of the Early Career Researcher Network.

Monitoring is crucial for gaining insights into the current state of 3Rs implementation. Our comprehensive reporting system, now in its third consecutive reporting year as of 2023, plays a pivotal role in guiding our future initiatives.

I extend heartfelt gratitude to all associated with the 3RCC for their dedication and efforts in driving 3Rs advancement. I hope this report motivates ongoing support and involvement as we collaborate to propel the progress of the 3Rs in Switzerland.

Simone de Montmollin
Swiss 3RCC President

2023 was a productive year marked by six webinars, four on-site trainings, and over 650 continuing professional education credits provided.

EXECUTIVE SUMMARY

DR. JENNY
SANDSTRÖM
Executive
Director



The Swiss 3Rs Competence Centre (3RCC) continues to drive progress in the implementation of the 3Rs principles through a comprehensive approach encompassing research funding, education, communication, networking, and monitoring.

In 2023, our research funding supported 11 new projects across various aspects of the 3Rs, expanding innovative research and implementation efforts at Swiss academic institutions. Moreover, our education initiatives experienced a four-fold growth, providing over 1,200 Swiss scientists with continuing education opportunities on the 3Rs. We are committed to further enhancing our educational offerings in collaboration with our Members.

Increased metrics on social media and online platforms reflect growing engagement with Swiss scientists, while our active participation at four scientific conferences has amplified the visibility of the 3Rs agenda. We also

enhanced our communication with a public session adjacent to our annual 3Rs Day Congress and in 2023 and we applaud our host, Università della Svizzera italiana, for opening its doors to an engaging dialogue and exchange on 3Rs and animal experimentation.

Through publishing various articles, videos, and by presenting ourselves at multiple public outreach events organized by our Members, we inform the public of the importance of the 3Rs principles to advancing scientific research in Switzerland.

In 2023, our funding supported 11 new projects across various aspects of the 3Rs.

Furthermore, in 2023, we strengthened our Directorate Team by hiring two new Scientific Officers, bolstering our capacity to drive forward our education and communication activities.

As we reflect on the achievements of 2023, we are poised to continue our mission of promoting ethical research practices and fostering collaboration within the scientific community, ensuring a brighter future for animal welfare and scientific progress.

WHO WE ARE

THE 3R PRINCIPLE

The 3Rs - replacement, reduction, and refinement - represent ethical guidelines for the humane treatment of animals in research. Replacement involves seeking alternatives to animal use, such as cell cultures or computer models. Reduction aims to minimize the number of animals used by employing efficient study designs and sharing data to avoid unnecessary duplication. Refinement focuses on improving animal welfare and reducing suffering through better care and improved experimental techniques. Together, these principles promote responsible research practices while striving to minimize animal use and alleviate harm or distress.

THE SWISS 3R COMPETENCE CENTRE

DRIVING 3RS ADVANCEMENT FOR IMPROVED ANIMAL WELFARE AND BETTER SCIENCE IN SWITZERLAND

The 3RCC is a non-profit scientific centre of national importance. The centre promotes the 3Rs and facilitates their implementation in the life sciences. We fund innovative and applied 3Rs research, educate and train scientists on the 3Rs and promote and disseminate 3Rs knowledge. Furthermore, we inform the public on the replacement, reduction and refinement of animal use in science and monitor 3Rs implementation in Switzerland. The 3RCC is a joint initiative of academia, industry, regulators, government, and Switzerland's largest animal welfare organisation. We aspire to be the leading source for information on the 3Rs in Switzerland.

1.3

MIO CHF

ANNUAL ALLOCATION
TO 3RS RESEARCH FUNDING

4

MANDATES

RESEARCH, EDUCATION,
COMMUNICATION, MONITORING

4.74

MIO CHF RESOURCES

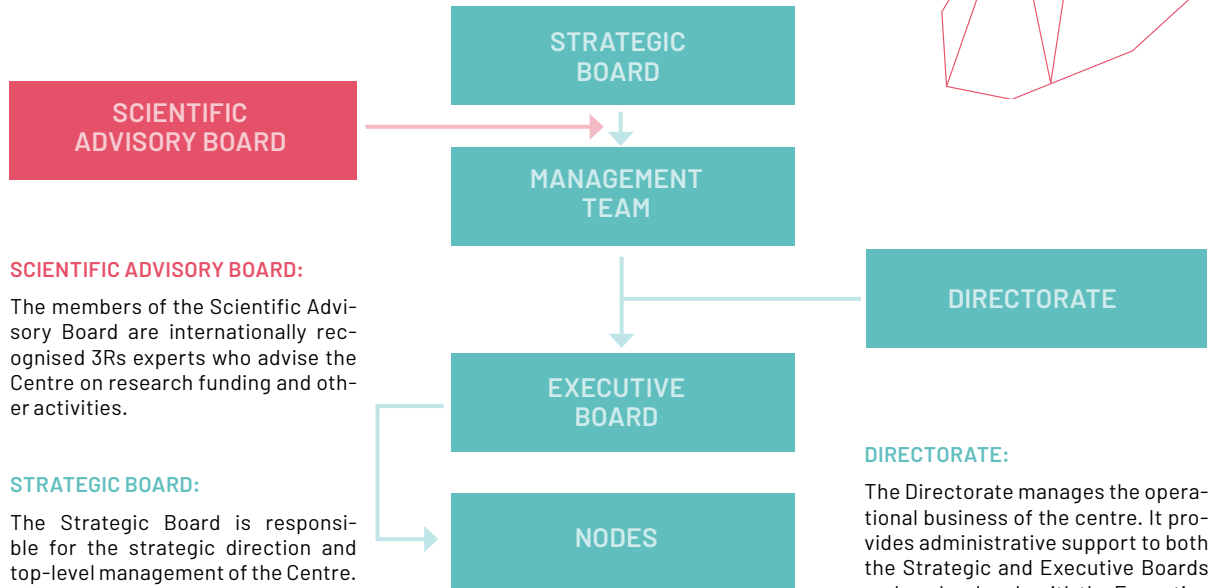
2.16 MIO CASH FUND +
2.58 MIO IN KIND

7.1

FTE TOTAL

4.2 FTE DIRECTORATE +
2.9 FTE EXECUTIVE BOARD

HOW WE ARE ORGANISED



SCIENTIFIC ADVISORY BOARD:

The members of the Scientific Advisory Board are internationally recognised 3Rs experts who advise the Centre on research funding and other activities.

STRATEGIC BOARD:

The Strategic Board is responsible for the strategic direction and top-level management of the Centre. The members of the Strategic Board represent the interests of their institutions and support the implementation of the centre's strategy in their institutions at management level. Switzerland's largest animal welfare organisation. We aspire to be the leading source for information on the 3Rs in Switzerland.

EXECUTIVE BOARD:

The Executive Board are animal welfare officers and/or 3Rs experts at the member organisations (Nodes). They interact directly with students and scientists and are promoting and implementing 3Rs at the Node level.

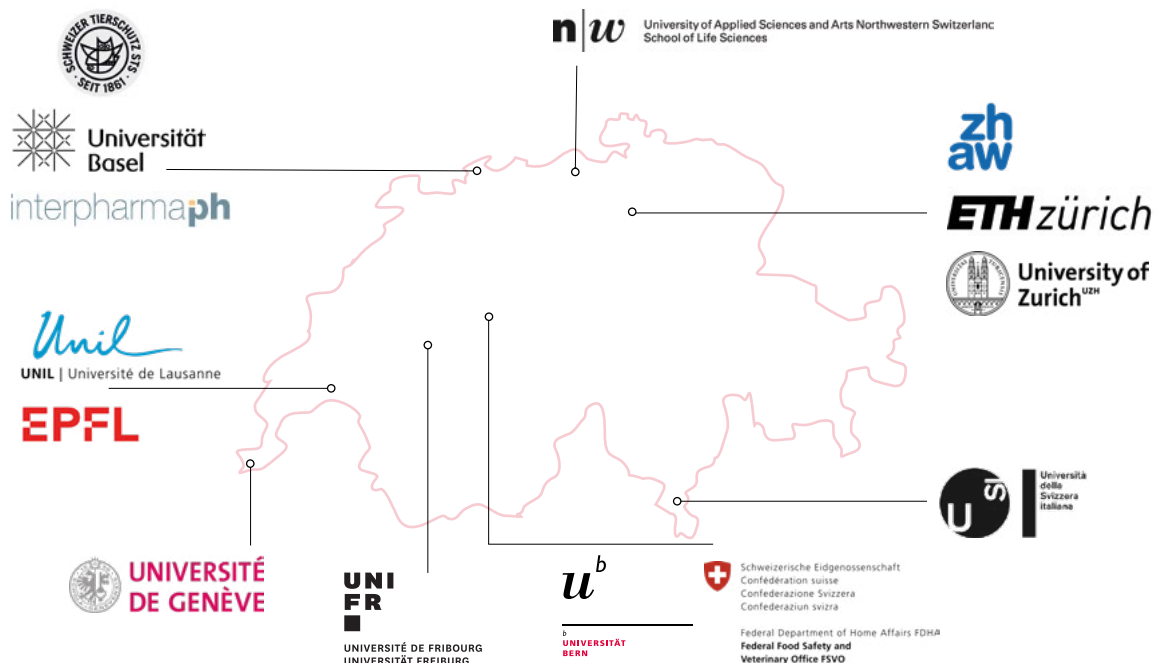
DIRECTORATE:

The Directorate manages the operational business of the centre. It provides administrative support to both the Strategic and Executive Boards and works closely with the Executive Board.

NODES:

Our members across Switzerland are essential for us to carry out our mandates. We receive money and in-kind support from our members.

OUR MEMBERS



INTRODUCING THE 3RCC DIRECTORATE



DR. ANTOINE CHAMPETIER, Scientific Officer, KATHRYN SADOWSKI, Finance and Operations Officer, DR. ARMAND MENSEN, Scientific Officer & Deputy Executive Director, DR. JENNY SANDSTRÖM, Executive Director, DR. ROBBIE I'ANSON PRICE, Scientific Officer, DR. JESSICA LAMPE, Communications Officer, AUDE RAPET, Scientific Officer

OUR GOALS ARE TO:



Change Mindsets

by altering attitudes and behaviours through information, education, and targeted research funding.



Promote Good 3Rs Practice

by improving implementation, animal welfare, and scientific quality through responsibility, reliability, and transparency.



Create networks for 3Rs in science

by expanding the organization's reach and impact by connecting researchers and partner nationally and internationally with 3R stakeholders.

RESEARCH FUNDING

We provide funding to enhance implementation and develop new 3Rs approaches.

24

PROJECTS

11 NEW PROJECTS
FUNDED IN 2023

1.8

MIO CHF

OF RESEARCH GRANT
COMMITMENTS TO THE
TARGETED CALLS

4

OPEN CALL PROJECTS

COMPLETED
IN 2023

PROVIDING FUNDING FOR 3RS RESEARCH

RESEARCH STRATEGY

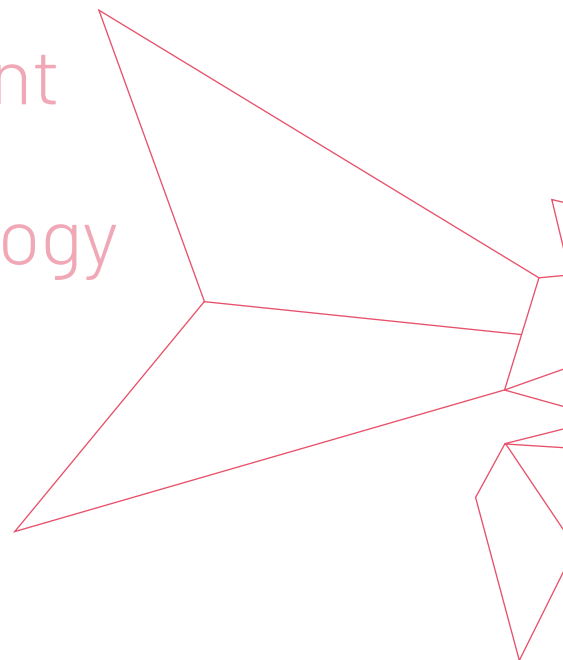
The life science research landscape is evolving ever more rapidly, and it is crucial to ensure that development of new 3Rs approaches keeps an even pace. We support researchers across all of Switzerland in their quest for improving humane research practices. Our **Funding Scheme**, seeks to span all aspects of 3Rs research provides Swiss researchers crucial resources to pursue **innovative 3Rs research** as well as **furthering implementation** and application.

Through our **Open Project Grant** and **Targeted Project Grant** we have provided funding for Swiss research that is at the forefront of international 3Rs advancements. In our **Doctor-**

ate Programme we foster the next generation of innovative 3Rs researchers. These investments will pave the way for new methodologies that advance 3Rs in Switzerland.

Unique in its kind in Switzerland, our **Refinement Grant** is essential to bridge the gap between methodology development and practical implementation and dissemination of these approaches. Finally, our **Knowledge Transfer Grant** is an important fund for accelerating the adoption of best practices and innovative 3Rs methodologies. It allows scientists to learn successful 3Rs strategies and implement these in their home institutions.

Unique in its kind in Switzerland, our Refinement Grant is essential to bridge the gap between methodology development and practical implementation.



ACHIEVEMENTS IN RESEARCH

IN 2023 WE HAD 24 ONGOING PROJECTS ACROSS SWITZERLAND

To read more about the projects we fund, please visit:

→ <https://swiss3rcc.org/funded-projects>

FUNDING SCHEME

- Targeted call
- Knowledge transfer
- Doctoral programme
- Refinement grant
- Open Call



Innovative research for advancing 3Rs funded in 2023

In December 2023 the 2022 Targeted Project Call was concluded, and five projects were awarded funding. These projects aim to **advance 3Rs implementation** in science by taking 3Rs approaches the last leg of the journey to effective application and propose a strategy for wider implementation. Collaboration, replicability, human relevance, and reproducibility are key considerations in these grants. Three projects are focused on implementation of replacement methods, one on reduction approaches, and one on refining animal experimentation.

On January 1st 2023 we launched our first **Doctorate Programme** composing four research projects. Three projects focus on establishing methodologies for replacing animals in pre-clinical settings. The other project focuses on refining a common approach for genetically modifying mice.

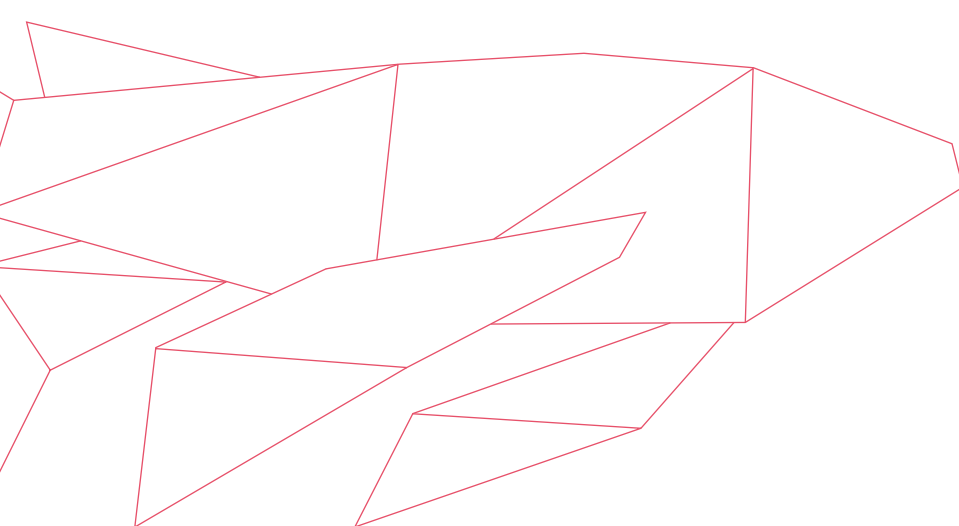
Five project funded under our **Open Call Grant** were completed in 2023 and Information on these can be found in the annex (see ANNEX) of this document.

RESEARCH OUTLOOK 2024

In 2024 we will launch the second Knowledge Transfer call for projects. Furthermore, our Doctorate programme call for 2025-2028 set to be announced in December.

The seven ongoing projects funded through the Open Call Funding are scheduled for completion this year, which concludes this first Funding Scheme provided by the 3RCC and enables its evaluation.

We are also anticipating the completion of one Refinement Grant project, and the six Knowledge Transfer projects under the first round of calls for these grants. We anticipate a steady stream of new publications and outputs from our research projects, which we will promptly update on our website as they become available.



EDUCATION

The 3RCC provides information, education and training on good 3Rs practice to researchers.

6

WEBINARS

4

ON-SITE TRAININGS
PROVIDED

+400

% / >1250
TOTAL NUMBER OF PARTICIPANTS

BUILDING 3RS KNOWLEDGE AMONG SCIENTISTS THROUGH EDUCATION

EDUCATION STRATEGY

Continued 3Rs education in new and improved techniques is fundamental to empower scientists and professionals to adopt innovative approaches and refine existing methods, ultimately improving the quality of research. In 2023, our aim was to reach a broad range of scientists through offering an education program made up of hands-on training and theoretical workshops. Our trainings focused on three main areas of Good 3Rs Practice with several workshops spread across the year: reducing severity with refinement strategies, improving surgery standards, and implementing culture of care measures. The online workshops focused on educating scientists on best practices for enhanced welfare.



Good 3Rs Practice:
reducing severity, improving
surgery standards, and
implementing care
measures.

ACHIEVEMENTS IN EDUCATION

Best practice workshops

Our workshops in 2023 looked at welfare from both the human and animal perspective. On the human side, we brought together researchers who carry out euthanasia in rodents. The workshop focused on the stress that this practice can cause and created a safe space for discussion and reflection. On the animal side of welfare, we ran three workshop series on refinement. These workshops encouraged collaboration and the sharing of best practices among academia and industry, promoting ethical research aligned with 3Rs principles. Additionally, a workshop highlighted the need for refinement measures targeting zebrafish welfare, offering valuable insights from experts.

GOOD PRACTICE FOR RODENT SURGERY	2 iterations @University of Zurich and 2 iterations @University of Geneva	15 certificates for 1 day of CPE issued at each iteration
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SUPPORTIVE CARE MEASURES	Online, 2 iterations	130+ attendees and in average 90 certificates for 0.5 day of CPE issued at each iteration
INDUSTRY STANDARDS OF ANIMAL WELFARE	Online	170 attendees and 141 certificates for 0.5 day of CPE issued
ZEBRAFISH REFINEMENT	Online	190 attendees, 163 certificates for 0.5 day of CPE issued

3Rs training

Our Good Practice workshop for rodent surgery addresses a crucial gap in rodent surgery training, as revealed by a systematic review showing that over 60% of researchers lack medical backgrounds. The course provides step-by-step guidance on surgical best practices, offering hands-on training across various skill stations. After successful sessions in Zurich, the workshop expanded to the University of Geneva, aiming to promote national adoption of these essential practices.



Participants at the rodent surgery workshop in Zürich follow the tutorial.

3Rs webinar series

Our webinar series covered the topics of the 3Rs principle and its significance, 3RCC funding, science communication, and monitoring 3Rs in Switzerland. We also highlighted the culture of care in animal experimentation and how it ensures ethical treatment, responsible conduct, and compassion within the scientific community. Focusing our education on animal care staff, as well as 3Rs researchers, made it a successful platform for the promotion of the 3Rs principle and the fostering of a culture of care.

CENTER FOR APPLIED BIOTECHNOLOGY AND MOLECULAR MEDICINE lecture series	Online	30+ attendees at each lecture
CREATING THE RIGHT ENVIRONMENT FOR ANIMAL CARE	Online	540+ attendees at each series



A researcher from the Kruithof and Rubin Lab works at their computer.

Danish 3R-Center





Utrecht University





3R
Replace
Refine
Reduce



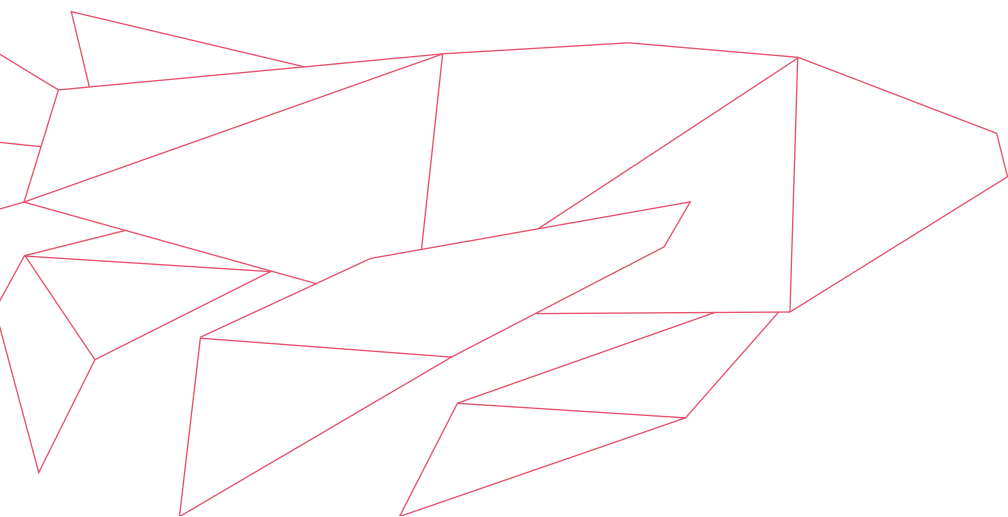
NC
3Rs

National Centre
for the Replacement
Refinement & Reduction
of Animals in Research



3R
THE SWEDISH 3RS CENTER

THE COLLABORATORS ON
THE WEBINAR CREATING THE RIGHT
ENVIRONMENT FOR ANIMAL CARE



EDUCATION OUTLOOK 2024

Focusing on refinement:

To effectively address the balance of interests and the «indispensable need» of animal research, it is essential to involve all stakeholders in 3Rs and embrace an interdisciplinary approach. We will integrate legal and regulatory viewpoints with clinical and biomedical perspectives. Recognizing the pressing ethical concern of reducing animal surplus in Swiss animal facilities, we will convene experts to explore this issue.

Targeting oncology as field of research in 2024:

Cancer research stands out as the primary area utilizing animals for research in Switzerland, as revealed by the monitoring mandate. Consequently, it presents the greatest opportunity for implementing the 3Rs principle.

Leveraging our European collaboration to delve into the impacts of replacement methods:

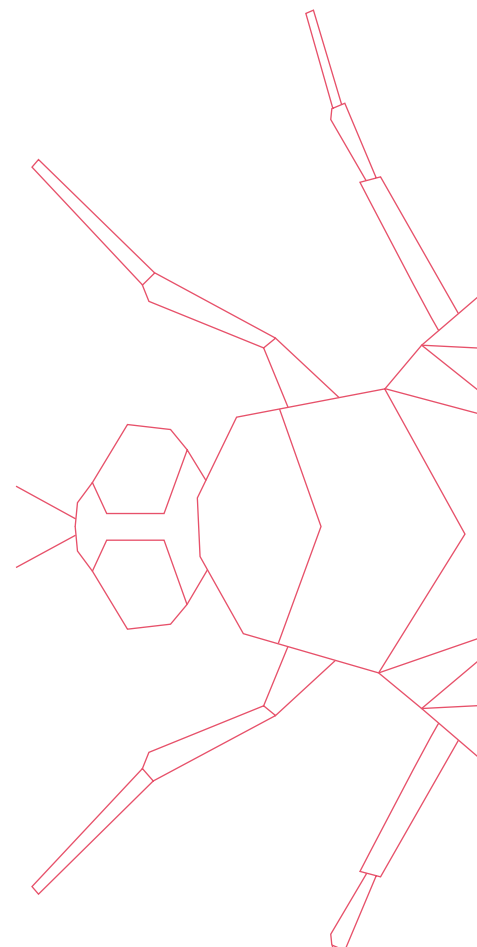
Part of the public opinion in Europe increasingly advocates for animal-free research. Collaborating with European 3Rs centres, we will explore both short and long-term possibilities for replacement of animal testing.

Promoting the implementation of culture of care:

Based on insights from Executive Board members, it is evident that animal caretakers often face challenges in adopting practical culture of care approaches for their facilities. Aligned with the Culture of Care Working Group, our goal is to offer tangible examples from Swiss facilities and simple solutions for implementation.

Giving tools for 3Rs knowledge and feasibility assessment:

Decision-makers responsible for granting licenses for animal experiments would benefit from enhanced training on the principles of the 3Rs to ensure informed decision and recommendations. We will offer authorities insights into innovative 3Rs science, along with educational resources to support their understanding and guidance.



COMMUNICATION

The 3RCC promotes better understanding and visibility of the 3Rs principle among scientists and the public.

3 R
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Swiss 3R
Competence
Centre

4

SCIENCE COMMUNITY
ENGAGEMENT EVENTS

17

PIECES OF CONTENT FOR
THE PUBLIC

10 ARTICLES AND
7 VIDEOS ON 3RS RESEARCH

6

PUBLIC OUTREACH
EVENTS SUPPORTED

INCREASING 3R VISIBILITY

Advancement of the 3Rs depends on effective engagement with both scientists and the public, and the 3RCC's communication mandate is central in this regard. To advance the visibility and understanding of 3Rs we tailor our efforts to benefit our target audiences.

HOW WE COMMUNICATED WITH SCIENTISTS

Communication strategy – scientists

The 3RCC promotes better understanding and visibility of the 3Rs principle among scientists and within science. We engage with the Swiss science community through regular newsletters, publications and conferences targeted at spreading the state-of-the art of 3Rs knowledge and methodology to Swiss-based scien-

tists. Allied to this we make use of social media platforms to better spread knowledge and advertise our activities. With our awards we highlight important 3Rs achievements and impact, with the aim to engage scientists and professionals and raise the profile of the 3Rs in the science community.

3Rs Day Congress

Our annual 3Rs Day Congress is the only national event solely focused on 3Rs. Bringing together leading minds from academia, industry, government, and animal welfare organizations, this dynamic gathering showcases ground-breaking technologies and fosters collaborations that drive the future of ethical research. The 2023 3Rs Day congress was hosted by the Università della Svizzera italiana, in Lugano and drew in 170 participants from around Switzerland and abroad, highlighting the commitment of the scientific community to the 3Rs.



170

PARTICIPANTS

13

SPEAKERS

7 FROM ACADEMIA,
4 FROM INDUSTRY,
1 FROM AN ANIMAL WELFARE ORGANIZATION,
1 FROM FEDERAL AUTHORITIES

Science community engagement

The 3RCC sponsors various scientific events to continue building its network and increase 3Rs visibility in the sciences. This further facilitates 3RCC's collaboration and knowledge sharing across its national network and contributes to our mission of promoting ethical and responsible research practices. In 2023 we sponsored 4 events and raised our profile among both researchers and animal facility staff:

Translational Organoid Resource - DBMR Symposium, on May, 31st 2023 - 200+ participants

This symposium raised awareness and united scientists of all levels to explore organoid possibilities and Translational Organoid Resource support for their research.

15th Swiss Zebrafish Meeting on June, 30th 2023 - 100+ participants

Zebrafish are key research models, qualifying for refinement strategies and serving as replacement when using embryos. Switzerland's zebrafish community contributes significantly across various fields such as molecular biology and toxicology.

STRIDE Lab Summer School on Systematic reviews of animal studies, on August, 28th-31st 2023 - 30+ participants

Systematic reviews, through unbiased approaches, enhance evidence synthesis, aiding in identifying trends and improving research integrity while promoting the 3Rs principles and fostering rigorous scientific practice.

Gentle Mouse Handling, 3 iterations in Summer and Autumn 2023 - 35 participants per iteration

The workshop emphasized low-stress handling methods for mice, demonstrating practical applications and benefits, addressing common concerns hindering adoption, and providing hands-on experience for enhancing animal welfare and research practices.

Acknowledging 3Rs achievements

In 2023, the **Culture of Care Award** was given to one of the animal caretaker teams at the University of Basel for their work in advancing 3Rs principles. The team, made up of eleven members, achieved an impressive 35% reduction in surplus animals through better breeding management practices. They also shared their methods widely, helping others implement similar changes. This award celebrates both their achievements and the importance of a strong culture of care.

The **3Rs Award** for work completed in 2022 went to Prof. Guillaume Andrey from the University of Geneva for his work to reduce the use of transgenic animals in developmental studies.

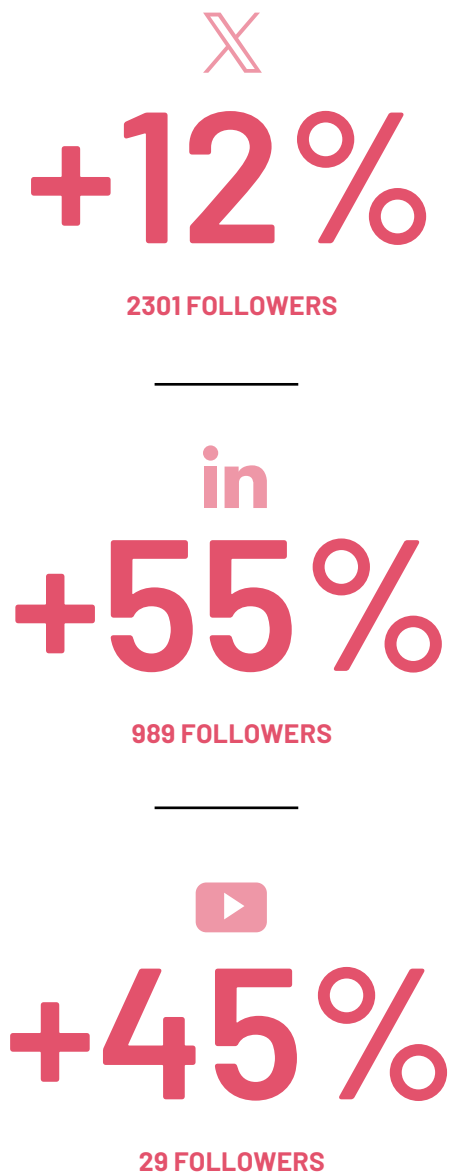
The **3Rs Young Investigator Award** 2022 went to Wei Wei from ETH Zürich for his work on creating a three-dimensional model of the brain's protective wall, the blood-brain-barrier.

The 3RCC celebrates these achievements on social media and through short information videos to ensure that the efforts have continued impact within science.

Our awards celebrate the hard work of researchers while highlighting its importance.

Social media and online presence

Social media is a key part of our effort to engage scientists with our activities and 3Rs advancements. All primary social media metrics (followers and engagement) are increasing.



Newsletters

In 2023, four 3RCC newsletters were sent out to our 291 subscribers to disseminate information on the 3RCC's activities.

Sign up for news and updates shared in our newsletter here:

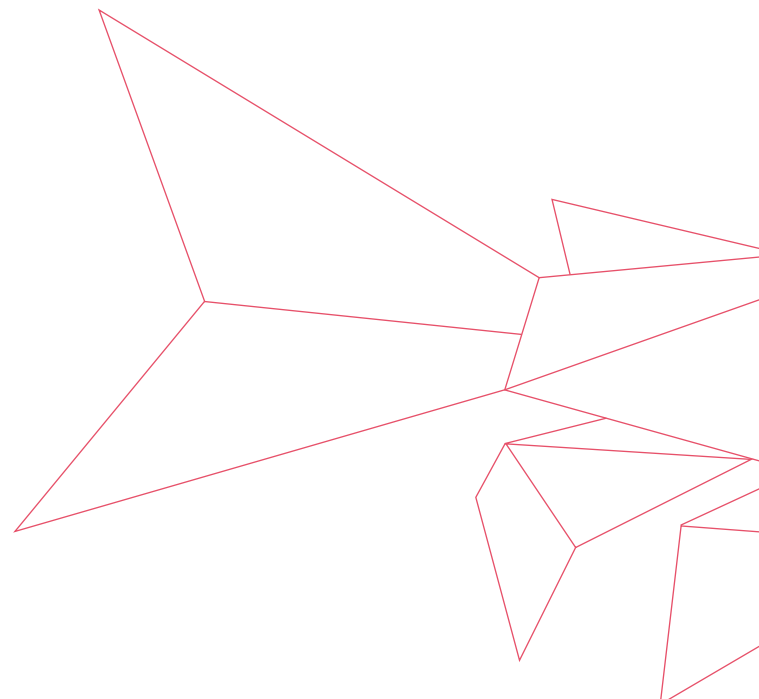
→ [SUBSCRIBE](#)

The 3RCC supported the translations of the NC3R Tech3R Newsletter into its National languages to provide Swiss animal technicians with the latest 3Rs news and to promote the adoption of 3Rs principles in animal research.

Publications

In 2023 we collaborated internationally to issue recommendations and new insight on 3Rs implementation:

- [RIVER](#) (Reporting In Vitro Experiments Responsibly) recommendations for the reporting of in vitro studies
- An [editorial piece](#) on how to best engaging on discussions about the use and the replacement of animals in research with young minds
- A hypothesis and theory [article](#) on Advancing the 3Rs: innovation, implementation, ethics and society

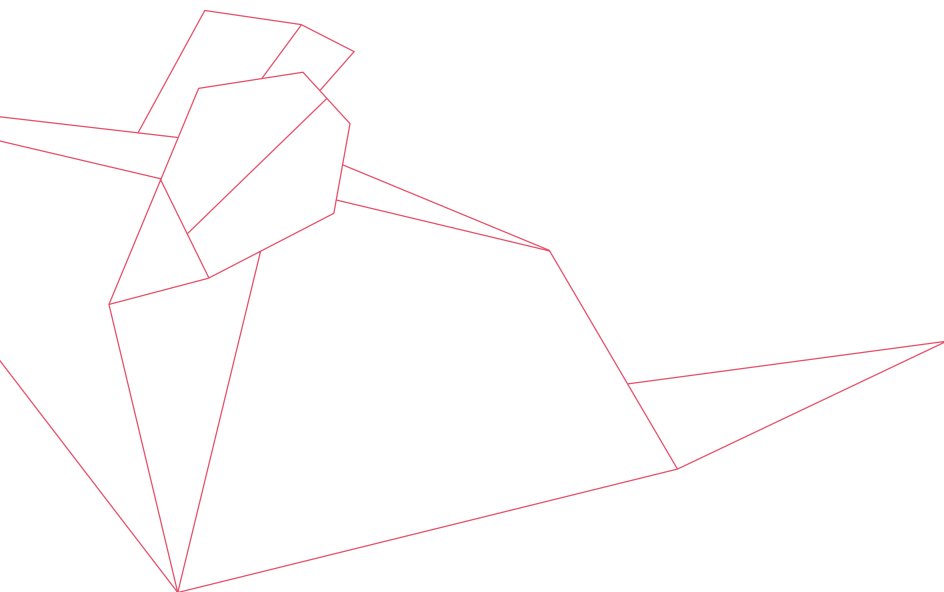


Outlook for communication with scientists

The 2024 Swiss 3Rs Day in Lausanne is hosted by the University of Lausanne, CHUV, and EPFL and we aim to grow our audience to 200 Swiss and international scientists from all sectors. New on the programme is a tandem session for biotech and pharma companies to showcase their successful 3Rs implementation stories.

2024 marks a busy year in science community engagement where the 3RCC will be present with a booth at the LS2 annual meeting, as well as LS2 Physiology satellite meeting, and the 2024 Annual Congress of the Swiss Society for Allergology and Immunology. These represent large communities where many animals of higher severity degrees are used and a priority audience for the 3RCC in 2024.

In 2024 we will acknowledge major Swiss achievements in 3Rs with our CoC, and 3Rs Award, as well as with two Awardees in the Young 3Rs Investigator category, thanks to additional support by the NRP79.



HOW WE COMMUNICATED WITH THE PUBLIC

Communication strategy – public

Many people are concerned about the ethical implications of using animals in research. We communicate why the 3Rs principle is central to advancing humane and responsible research. In doing so, we build trust in the 3Rs, ensuring that the public is informed about the latest advancements in the replacement of animals and the efforts being made to minimize their use and suffering. As an active member of the Swiss Transparency Agreement on Animal Research (STAAR) we have a strong commitment to communicate openly about how animals are used in science.

We provide the public with infographics and videos to illustrate 3Rs research in Switzerland and inform on how the 3Rs principle is being implemented in research. Through community outreach events we provide opportunities for the public to ask questions, share concerns, and engage in dialogue.

Achievements in public communication

Dissemination of 3Rs Research

In 2023 we produced and released seven videos that were aimed at the public. These videos included interviews with our awardees, interviews with scientists that recently completed their funded projects and 3RCC project videos. Each video is made available in all the national languages that the interviewees spoke, and this is supported by subtitles in national languages where possible.

Public engagement

We participated in Switzerland's largest science festival Scientifica at the University of Zurich (2nd –3rd September)

We endorsed the **outreach event** hosted by USI Lugano, prior to the Swiss 3Rs Day Congress: "Alternative all'uso di animali nella ricerca" on September 18th

We provided 3Rs information material to:

- EARA Be Open About Animal Research Day #BOARD23 in the form of a video, and quote to support the day of the Laboratory Animal in Switzerland Swiss – June 10th.
- EPFL Open Day, April 29–30th
- Journée du Diabetes, University of Geneva, November 7th
- FHNW Muttentz Visitors Day 18th November

Providing policy advice

In 2023 the 3RCC provided expert advice to the Research and Education Commission of the National Councils hearing on August 18th regarding the **parliamentary initiative** to provide "More resources and incentives for 3R research to expedite alternatives to animal experiments"

Outlook for public communication in 2024

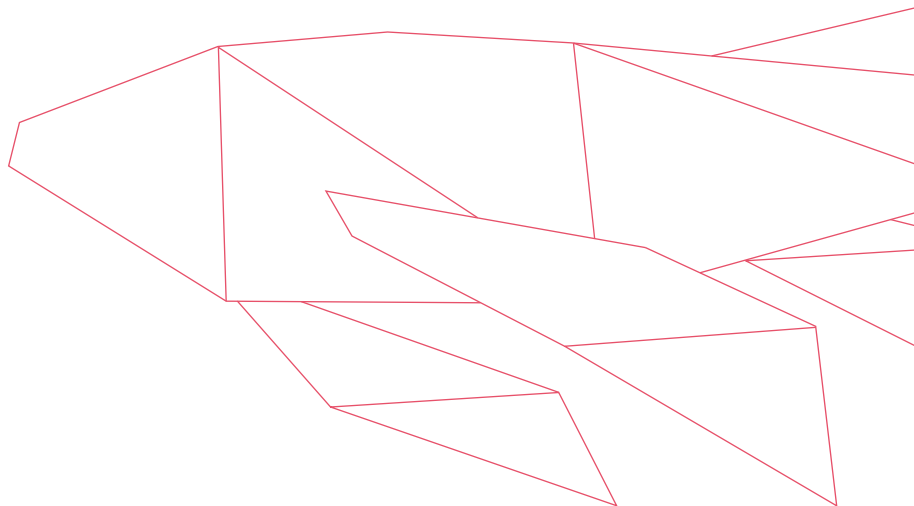
We are redesigning our video communication to create a clearer delineation between our communication work for the public and the resources that we create for scientists. This will result in a total of nine awardee videos and five funded project videos that we produce for the public. We also plan to produce small communication videos on our internal projects.

We will release 7-10 articles informing the public on recent advancements in 3Rs research.

In 2024, we will again be supporting the European Animal Research Association's global **Be Open About Animal Research Day** → **#BOARD24** on June 15th. This is a global, 24-hour social media campaign that celebrates openness by biomedical institutions in communicating about animal research.

On the 12th of June, adjacent to the 3Rs Day Congress in Lausanne, we are supporting the public engagement session "Pourquoi la recherche avec les animaux - Qu'est-ce que les 3R ?".

Clear delineation between our communication activities to scientists and the public will strengthen our outreach in 2024.



NETWORKS



Establishing solid national and international networks supports broad 3Rs implementation

CREATING NETWORKS FOR 3RS

Given the international nature of science and 3Rs advancement, it's crucial for the 3RCC to establish itself as a central figure in advancing 3Rs principles both nationally and internationally. **International collaboration** with peer organizations allows us to exchange knowledge, expertise, and resources. These collaborations allow us to enhance the effectiveness and impact of our efforts and to contribute to the advancement of 3Rs on a global scale.

In the past five years we have established solid **national networks**, like the **Culture of Care Network**, and the **Biostatistics Task Force**, that support 3Rs implementation broadly. We have also emphasized reaching young researchers, through the establishment of the **Early Career Researchers Network**. Further to this we focus on the exchange of information and support of national stakeholders and partners and engage with the science community through participation in conferences and events.



NATIONAL COLLABORATIONS (mostly focused on communication)



INTERNATIONAL COLLABORATIONS (education, communication, dissemination)



MILESTONES IN 2023

Culture of Care Network

A Culture of Care plays a pivotal role in promoting animal welfare and advancing 3Rs in research, it instils values of compassion, responsibility, and ethical conduct, to create an environment where scientific progress can co-exist with the ethical treatment of animals.

The 3RCC Culture of Care Network reached an important milestone in 2023 with the finalized Culture of Care Charta, that sets a commitment to implement certain principles within the institution of its signatories. By the end of 2023 four of the Swiss research institutions had already signed the Charta: University of Lausanne, University of Bern, University of Basel and FHNW.

Early Career Researchers Network

Through the Early Career Researchers Network (ECRN), the 3RCC fosters a community of dedicated professionals committed to animal welfare and responsible research practices. By promoting collaboration, networking, and offering support in problem-solving and communication, we empower these young researchers to contribute meaningfully to their field of research and drive positive change in scientific practices.

Launched in 2023, the ECRN organised two impactful events during the year. The first event, "Walks and Talks," featured ten presentations by researchers and facilitated discussions on 3Rs project pitches, fostering in-depth conversations about 3Rs practices in Switzerland. The second event, a workshop titled "Bringing Story to the 3Rs," brought together young researchers eager to enhance their communication skills, which are often lacking in their academic training. With nineteen participants from across Switzerland, the workshop equipped young scientists with the necessary communication skills to promote 3Rs practices nationally.



Early career researchers participating in our storytelling workshop in December at the University of Bern

MONITORING

We develop tools for monitoring the 3Rs implementation to identify current gaps and anticipate future needs.

MONITORING THE ADVANCEMENT OF 3RS

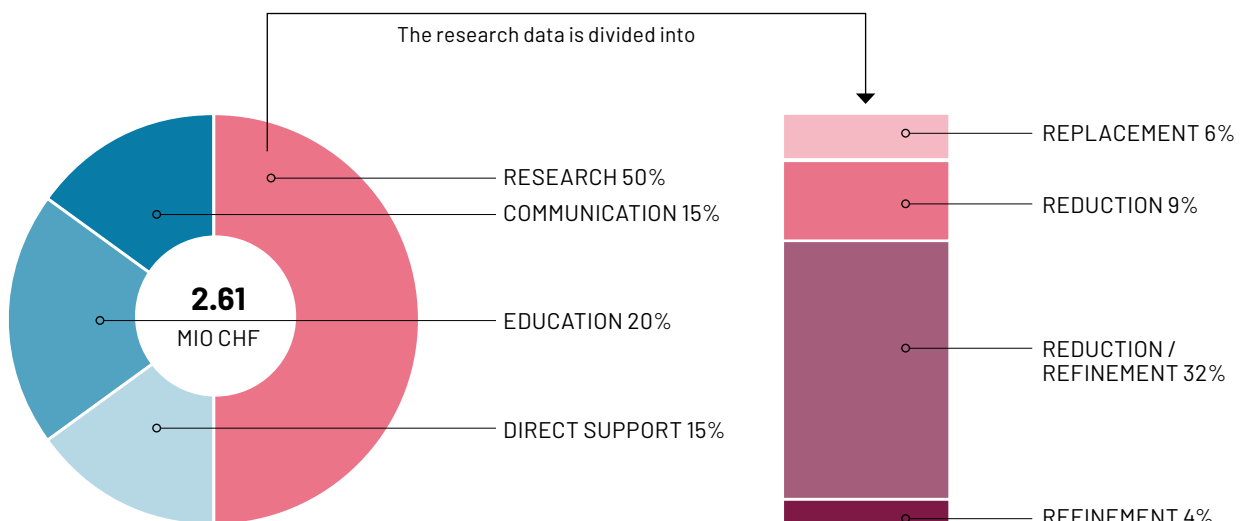
MONITORING STRATEGY

Understanding how alternative methodologies and animals are used in research and for what purposes is of crucial importance to understanding the current state of 3Rs implementation, to identify areas of improvement and to pinpoint specific hurdles for 3Rs implementation. The 3RCC has developed a comprehensive reporting system to map 3Rs investments done by its Higher Education Institution Members. We also conduct targeted data analysis to specifically understand animal use in research and the factors that influence this.

ACHIEVEMENTS IN MAPPING 3RS INVESTMENTS

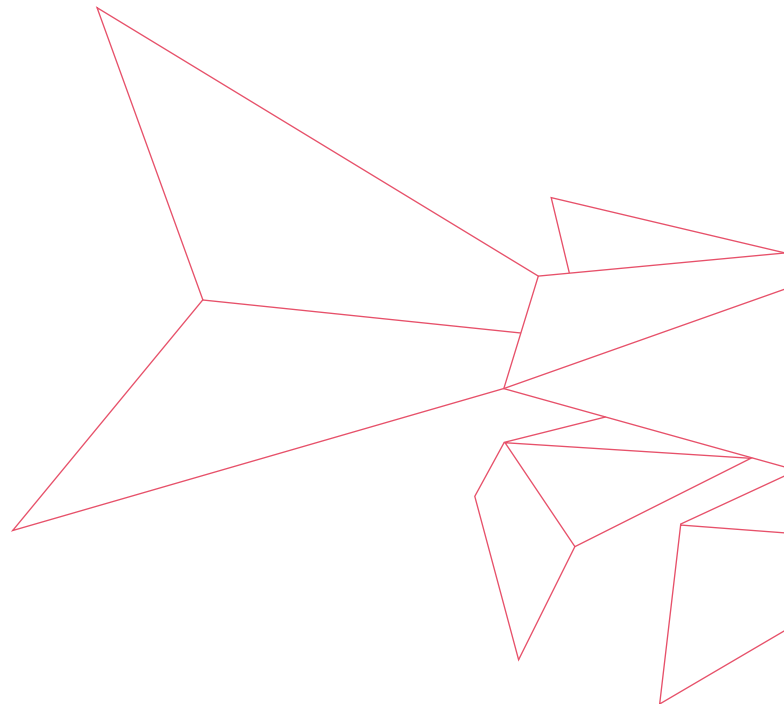
The annual Higher Education Institution Member investments are tracked in research by mapping, (i) infrastructure investments supporting 3Rs, (ii) programs, or services supporting replacement, reduction, and refinement, (iii) investments in animal facilities that directly improve animal welfare. Overall, these investments contribute to the advancement of 3Rs methods to varying degrees. In 2023 50% of total 3Rs impact-adjusted investments.

HEI Members invest in providing comprehensive education on 3Rs principles that equips scientists with advanced skills and knowledge beyond basic regulatory compliance. In 2023 9% was invested in 3Rs education.



MONITORING OUTLOOK 2024

2024 will conclude the fourth year of our new and comprehensive reporting approach to map 3Rs investments and completes the base-line creation phase. We also expect our targeted data analysis efforts to produce the first reports of deeper insight into animal usage in science. This will inform us of how to strategically allocate resources, tailor education initiatives, and improve dissemination strategies to enhance the implementation of 3Rs.



2024 will conclude
the fourth year of our new and
comprehensive reporting
approach to map 3Rs
investments.



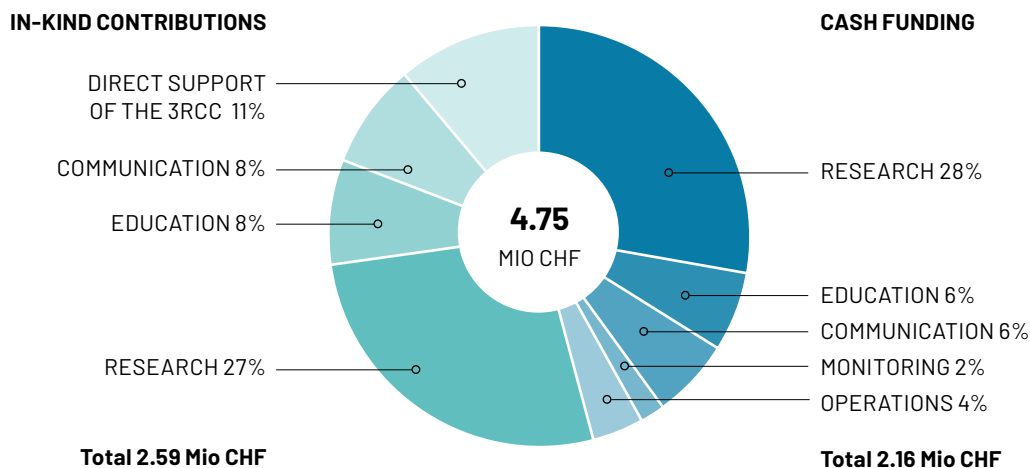
FINANCES

FINANCES

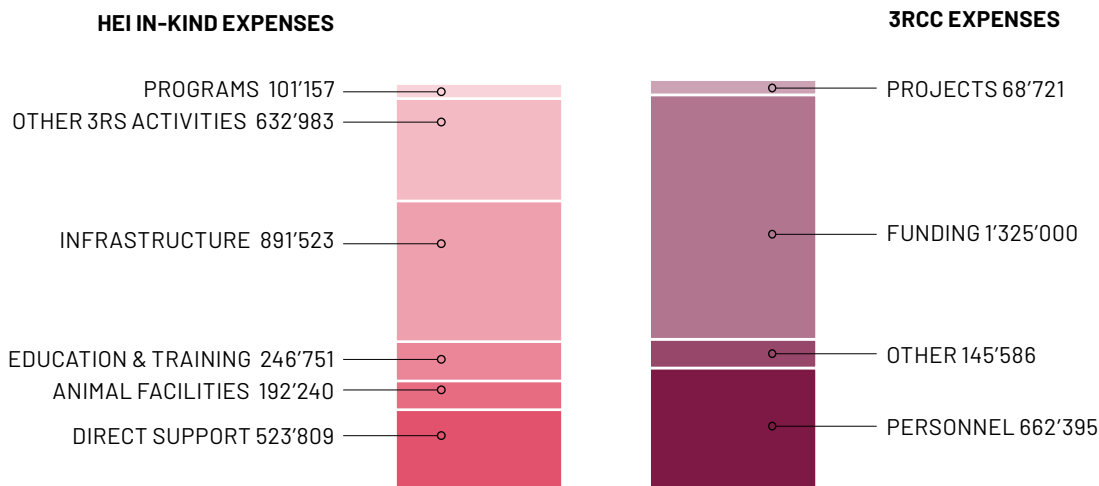
The 3RCC benefits from cash funding support by the State Secretariat for Education Research and Innovation, Federal Food Safety and Veterinary Office and Interpharma. In addition, 3RCC's HEI members support 3RCC's mission through in-kind contributions to the 3RCC in the form of services or other investments to advance 3Rs implementation within the member institutions (the so-called Nodes).

Annual resources of the 3RCC in 2023 totalled CHF 4.74 Mio., CHF 2.16 Mio. of in cash funding and CHF 2.58 Mio. of in-kind contributions by the Higher Education Institution member organisations. Consistent with the funding agreements under the current period 2021-2024, federal and sponsor funding remains constant and is allocated contractually to the mandates. In-kind contributions (actual and forecast) vary and are reported by the member institutions to the 3RCC on an annual basis.

Resource allocation under mandates



Expenses HEI members/3RCC



PRINCIPAL CONTRIBUTORS TO THE 3RCC ANNUAL REPORT 2023

Swiss 3RCC Directorate:

Champetier, Antoine
l'Anson Price, Robbie
Lampe, Jessica
Mensen, Armand
Rapet, Aude
Sadowski, Kathryn
Sandström, Jenny

Swiss 3Rs Competence Centre (3RCC)

c/o University of Bern
Hochschulstrasse 6
CH-3012 Bern
info@swiss3rcc.org



ANNEX

COMPLETED PROJECTS

Open Call 2018	OC-2018-003	Dr Philippe Bugnon	Breeding management software for genetically modified rodents
Open Call 2018	OC-2018-006	Professor Jean-Paul Vallée	3D heart models for cardiac surgery training
Open Call 2019	OC-2019-003	Prof Dr Marianna Kruithof-de Julio	Development of a platform for GU cancer patient-derived organoids
Open Call 2020	OC-2020-003	Dr Heike Schmidt-Posthaus	Reducing the need for lethal health monitoring in trout

TO READ MORE ABOUT THE LATEST WORK PUBLISHED BY OUR RESEARCHERS, VISIT OUR WEBSITE:
→ [HTTPS://SWISS3RCC.ORG/REPORTS-AND-PUBLICATIONS](https://swiss3rcc.org/reports-and-publications)

FUNDED PROJECTS

HIGHLIGHT ON: → [HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC10393774/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10393774/)

INNOVATIVE RESEARCH FOR ADVANCING 3RS FUNDED IN 2023

IN DECEMBER 2023 THE 2022 TARGETED PROJECT CALL WAS CONCLUDED AND FIVE PROJECTS WERE AWARDED:

Targeted Call 2022	TC-2022-001	Dr Constanze Hantel	Multidimensional models for in vitro screening of endocrine disrupting agents
Targeted Call 2022	TC-2022-005	Professor Johannes Bohacek	An Automated System for the Assessment of Pain and Wellbeing in Laboratory Mice
Targeted Call 2022	TC-2022-010	Dr Olivier Preynat-Seaue	A unique technology producing standardized lung cancer organoids in air/liquid interface conditions: a new alternative to animal experimentation
Targeted Call 2022	TC-2022-011	Professor Steffi Lehmann	Minimizing the number of rodents used in the discovery of bacteriophage derived antimicrobials through candidate screening in zebrafish embryos
Targeted Call 2022	TC-2022-012	Professor Johannes Mosbacher	Standardizing human organoid-based drug permeability assays

KNOWLEDGE TRANSFER PROJECTS

KT-2022-001	Dr Sudip Das	iPSC-derived macrophages for a Lung-on-chip (LOC) model of bacterial colonisation
KT-2022-002	Dr Martin Sadowski	Modelling acquired drug resistance by high content imaging and multivariate analysis of patient-derived organoids
KT-2022-003	Dr Antonio Herrera Camacho	Ex-utero culture of mouse embryos
KT-2022-004	Dr Alison Ferguson	An in vitro metastatic niche model of brain metastasis
KT-2022-006	Mr Antonio Sileo	Human engineered heart models to investigate mechanisms of cardiac maturation
KT-2022-007	Dr Nicole Bertschi	Implementation of a novel human ex-vivo skin culture technique to study the mechanism of action of therapeutics for inflammatory skin disease replacing animal testing

RESEARCHERS IMPLEMENTING 3RS

IN 2023 FUNDED FIVE APPLIED PROJECTS:

Refinement Grant 2023	RG-2023-001	Irene Adrian-Kalchhauser	Scoresheet for Fish
Refinement Grant 2023	RG-2023-004	Ori Bar-Nur	Application of non-surgical embryo transfer for the generation of trans-genic models
Refinement Grant 2023	RG-2023-006	Charlotte Calvet	Refinement of anesthesia in neonatal mice
Refinement Grant 2023	RG-2023-007	Olivier Dorchies	How to improve the breeding success of fragile dystrophic mice - Comparison of 4 breeding schemes
Refinement Grant 2023	RG-2023-008	Davide Manfredini	Evaluation of environmental enrichments for mice
Refinement Grant 2023	RG-2023-009	Petra Seebeck	alone - together? - single housing of male mice
Refinement Grant 2023	RG-2023-011	Henning Richter	Personal behavior profiles - tracking dogs for welfare monitoring
Refinement Grant 2023	RG-2023-012	Felix Gantenbein	Refining rodent i.v. injection training by creating, improving and disseminating realistic training models
Refinement Grant 2023	RG-2023-013	Claudio Aguilar	A no-stress alternative to oral gavage in mice
Refinement Grant 2023	RG-2023-014	Ivana Jaric	Refining estrous cycle through non-invasive collection procedures and deep learning classification

IN 2023 THE 3RCC LAUNCHED SIX PROJECTS:

Knowledge Transfer 2022	KT-2022-001	Dr Sudip Das	iPSC-derived macrophages for a Lung-on-chip (LOC) model of bacterial colonisation
Knowledge Transfer 2022	KT-2022-002	Dr Martin Sadowski	Modelling acquired drug resistance by high content imaging and multivariate analysis of patient-derived organoids
Knowledge Transfer 2022	KT-2022-003	Dr Antonio Herrera Camacho	Ex-utero culture of mouse embryos
Knowledge Transfer 2022	KT-2022-004	Dr Alison Ferguson	An in vitro metastatic niche model of brain metastasis
Knowledge Transfer 2022	KT-2022-006	Mr Antonio Sileo	Human engineered heart models to investigate mechanisms of cardiac maturation
Knowledge Transfer 2022	KT-2022-007	Dr Nicole Bertschi	Implementation of a novel human ex-vivo skin culture technique to study the mechanism of action of therapeutics for inflammatory skin disease replacing animal testing

FURTHER INFORMATION ON OUR WEBSITE:

→ SWISS 3R COMPETENCE CENTER - FUNDED PROJECTS (SWISS3RCC.ORG)

BOARD MEMBERS IN 2023

AFFILIATION	NAME	ROLE	FROM-TO
Member of the National Council	Simone de Montmollin	President	May 2022 – Dec 2023
University of Bern	Christian Leumann	Vice President	Mar 2018 – Dec 2023
University of Basel	Rolf Zeller	Vice President	As of Dec 2023
Ecole Polytechnique Fédérale de Lausanne (EPFL)	Didier Trono	Board Member	Mar 2018 – Dec 2023
Federal Institute of Technology Zurich (ETH Zürich)	Detlef Günther	Board Member	Mar 2018 – Feb 2023
Federal Institute of Technology Zurich (ETH Zürich)	Christian Wolfrum	Board Member	Feb 2023 – Dec 2023
Fed. Food Safety & Vet. Office (FSVO)	Otto Maissen	Board Member	May 2022 – Dec 2023
Interpharma	Birgit Ledermann	Board Member	Mar 2018 – Dec 2023
Interpharma	René Buholzer	Board Member	Mar 2018 – Dec 2023
Swiss Animal Protection (SAP)	Julika Fitz-Rathgen	Board Member	Mar 2018 – Dec 2023
Università della Svizzera Italiana (USI)	Benedetto Lepori	Board Member	Mar 2018 – Dec 2023
University of Applied Sciences and Arts Northwestern Switzerland (FHNW)	Falko Schlottig	Board Member	Mar 2018 – Dec 2023
University of Basel	Rolf Zeller	Board Member	Mar 2018 – Dec 2023
University of Bern	Hugues Abriel	Board Member	Dec 2023 – Dec 2023
University of Fribourg	Michael Walch	Board Member	May 2022 – Dec 2023
University of Geneva	Doron Merkler	Board Member	June 2020 – Dec 2023
University of Lausanne	Lilian Michalik	Board Member	Aug 2021 – Dec 2023
University of Zurich	Elisabeth Stark	Board Member	Oct 2022 – Dec 2023
Zurich University of Applied Sciences (ZHAW)	Urs Hilber	Board Member	Mar 2018 – Dec 2023
State Secretary for Education, Research and Innovation (SERI)	Cyrille Girardin	Observer member	Mar 2018 – Dec 2023
Federal Office of Public Health (FOPH)	Markus Hofmann	Observer member	Mar 2018 – Dec 2023

MEMBERS OF THE EXECUTIVE BOARD

AFFILIATION	NAME	ROLE	FROM-TO
University of Zurich	Paulin Jirkof	Chair	Jun 2019 - Dec 2023
University of Bern	Homare Yamahachi	Vice Chair	Jan 2021 - Dec 2023
Animal Welfare Officer Network (AWON)	Anne Zintzsch	Board Member	Sept 2022 - Dec 2023
Ecole Polytechnique Fédérale de Lausanne (EPFL)	Alexandre Widmer	Board Member	Sep 2020 - Dec 2023
Federal Institute of Technology Zurich (ETH Zürich)	Annamari Alitalo	Board Member	Mar 2018 - Sept 2023
Federal Institute of Technology Zurich (ETH Zürich)	Samia Bachmann	Board Member	Sept 2023 - Dec 2023
Institut für Labortierkunde (LTK)	Philippe Bugnon	Board Member	Mar 2018 - Dec 2023
Interpharma	Boris Jerchow	Board Member	Jan 2021 - Dec 2023
Interpharma	Bjorn Lex	Board Member	Feb 2022 - Dec 2023
Réseau des animaleries lémaniques (RESAL)	Christelle Cadilhac	Board Member	Sep 2021 - Dec 2023
Swiss 3RCC	Jenny Sandström	Board Member	Oct 2020 - Dec 2023
Swiss Animal Facilities Network (SAFN)	Anne Planche	Board Member	Oct 2018 - Dec 2023
Università della Svizzera Italiana (USI)	Santiago Gonzalez	Board Member	Mar 2018 - Dec 2023
University of Applied Sciences and Arts Northwestern Switzerland (FHNW)	Joachim Köser	Board Member	Oct 2022 - Dec 2023
University of Basel	Anke Rohlf	Board Member	Mar 2018 - Dec 2023
University of Bern	Hanno Würbel	Board Member	Mar 2018 - Dec 2023
University of Fribourg	Andrina Zbinden	Board Member	Mar 2018 - Dec 2023
University of Geneva	Daniele Roppolo	Board Member	Mar 2021 - Dec 2023
University of Lausanne	Stéphanie Claudinot	Board Member	Jul 2018 - Dec 2023
Zurich University of Applied Sciences (ZHAW)	Markus Rimann	Board Member	Oct 2022 - Dec 2023

MEMBERS OF THE SCIENTIFIC ADVISORY BOARD

AFFILIATION	NAME	ROLE	FROM-TO
Professor and group leader at the Laboratory Animal Science University of Porto, Portugal	Anna Olsson	Board Member	Sep 2018 - Dec 2023
Head of Experimental Design and Reporting National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs), London, United Kingdom	Nathalie Percie du Sert	Board Member	Sep 2018 - Dec 2023
Dr Global Head of Comparative Medicine, Roche, Basel, Switzerland	Tobias Schnitzer	Board Member	Sep 2018 - Dec 2023
Emeritus professor Newcastle University, United Kingdom	Paul Flecknell	Board Member	Sep 2018 - Dec 2023
Director of the 3Rs-Centre Utrecht Life Sciences, Utrecht University, the Netherlands	Jan van der Valk	Board Member	Sep 2018 - Dec 2023
Head of the Neural Connectivity and Visual Function Laboratory at King's College London	Robert Hindges	Board Member	Dec 2021 - Dec 2023
Professor of Medical Technologies and Regenerative Medicine at the Medical Faculty of the University Tübingen	Katja Schenke-Layland	Board Member	Dec 2021 - Dec 2023

MEMBERS OF THE MANAGEMENT TEAM

AFFILIATION	NAME	ROLE	FROM-TO
University of Bern	Christian Leumann	Representative of the Strategic Board (Vice President)	Nov 2020 - Dec 2023
University of Basel	Rolf Zeller	Representative of the Strategic Board (Vice President)	As of Dec 2023
University of Zurich	Paulin Jirkof	Representative of the Executive Board (Chair)	Nov 2020 - Dec 2023
Swiss 3RCC	Jenny Sandström	Representative of the Directorate (Executive Director)	Nov 2020 - Dec 2023

MEMBERS OF THE DIRECTORATE

NAME	ROLE	FROM-TO
Jenny Sandström	Executive Director	Oct 2020 - Dec 2023
Armand Mensen	Scientific Officer & Deputy Executive Director	Aug 2018 - Dec 2023
Kathryn Sadowski	Finance & Operations Officer	Jan 2021 - Dec 2023
Jessica Lampe	Communications Officer	Oct 2022 - Dec 2023
Antoine Champetier	Monitoring Officer	Sept 2022 - Dec 2023
Robbie l'Anson Price	Scientific Officer	Oct 2023 - Dec 2023
Aude Rapet	Scientific Officer	Oct 2023 - Dec 2023