

3 R Swiss 3R
C C Competence
Centre

Report

18-20



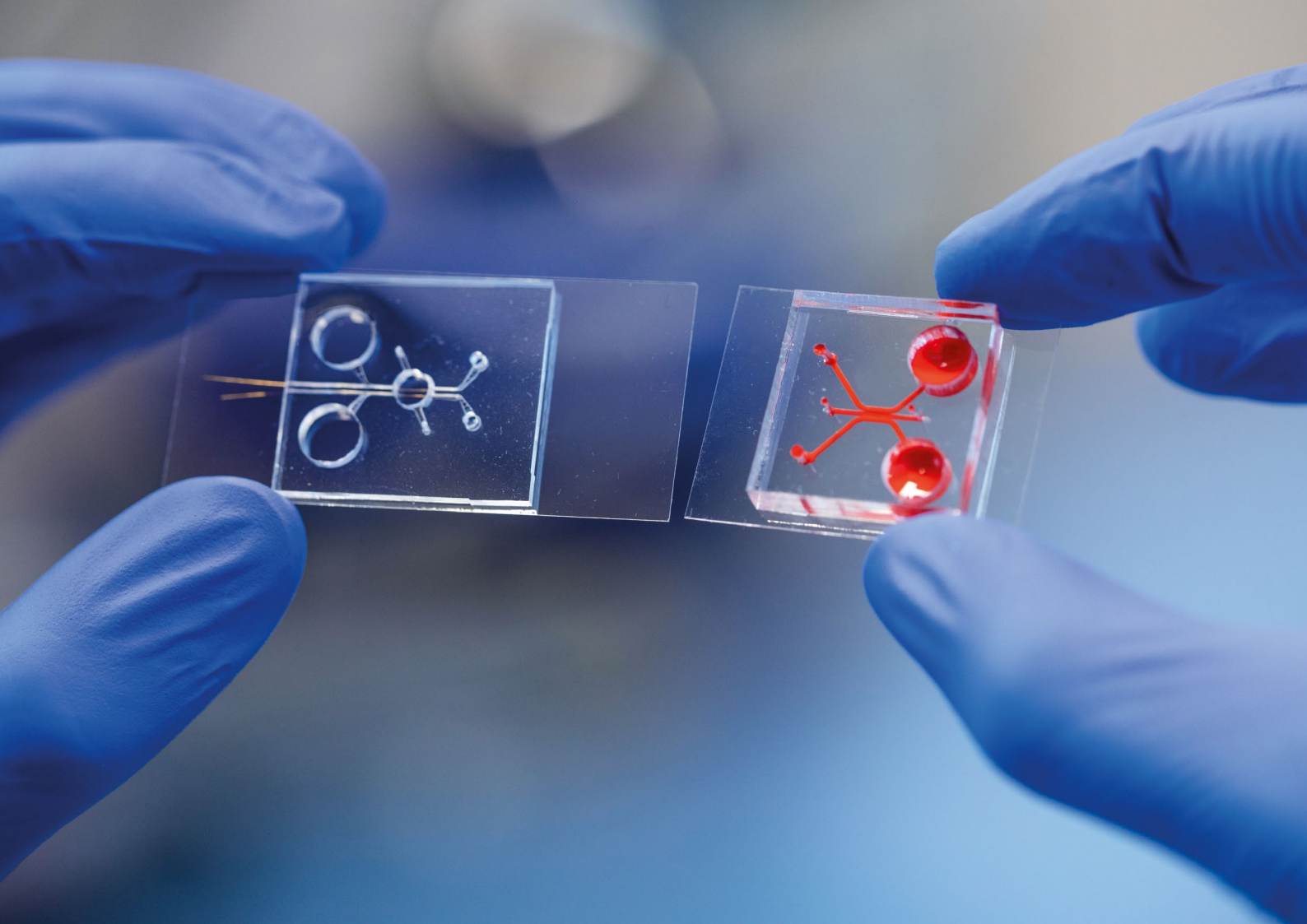


Table of content

1	Editorials	4
1.1.	President Kathy Riklin	4
1.2.	Vice President Christian Leumann	4
2	Introduction	5
2.1.	Executive Director Jenny Sandström	3
3	Organization	7
3.1	Purpose and mandates	7
3.2	Organizational governance	8
3.3	Boards and Teams	8
3.4	Map with members and partners	10
4	Activities and achievements	14
4.1	Research	14
4.2	Education	16
4.3	Communication	17
4.4	Monitoring, projects	19
5	Financial report	22
6	Outlook	25
	Tables	26

1 Editorials

President Kathy Riklin

In August 2012, the Science, Education and Culture Committee of the National Council (SECC-N) asked the Federal Council to report on the promotion of research on alternative methods to animal experimentation and their use in Swiss research. The Federal Council envisioned creating a Swiss competence centre to align research funding, education and services with the needs of researchers, higher education institutions (HEI) and civil society. The foundation of the Swiss 3Rs Competence Centre (3RCC) in March 2018 was a milestone in creating a central and coordinated structure to advance the 3Rs in the Swiss research landscape and beyond. To address the complexity of 3Rs Implementation, membership was necessary from all Swiss academic institutions conducting life sciences, stakeholders from the pharmaceutical industry, federal offices, and the largest Swiss animal welfare organisation.



The focus of the 3RCC for the first funding period was the establishment of the 3RCCs operations and governance, and the consolidation of both a national and international network. 3Rs implementation is an intricate mesh of ethical values, social and political considerations, as well as considerations for scientific freedom. Therefore, the 3RCC is not purely a research organisation focused on science, but holds mandates in education, monitoring and communication that carry equal weight in advancing the 3Rs in Switzerland. In these formative years, the 3RCC has established itself nationally and also to cooperate with other organisations at an international level, allowing the centre to productively move forward into the next funding period.

Vice President Christian Leumann

The Swiss education and research landscape is complex and multifaceted, as is the implementation of the 3Rs Principle within this community. The 3RCC gathers all major players under one umbrella and provides the platform where consensus among the different stakeholders on 3Rs matters can be sought, a prerequisite for successful implementation and progress. Therefore, the 3RCC represents a coordinated effort essential to drive 3Rs implementation within Switzerland.



The 3Rs have steadily gained acceptance within the scientific community. Swiss scientists, federal and cantonal higher educational institutions, the industry as well as the Swiss National Science Foundation, promoted the 3Rs in different ways and individually informed their communities about advancements on this topic. The establishment of a national competence centre enables the members to collaborate more closely and to better understand the challenges and opportunities required to successfully implement the 3Rs within their institutions. The funding scheme of the 3RCC fulfils an important function in raising the profile of 3Rs research and allowing advancement in the development of new 3Rs methods. Additionally, the 3RCC plays a crucial role in promoting 3Rs education and dissemination within the academic landscape and beyond. The 3RCC is an ambitious endeavour, on par with many other international 3Rs organisations, and its success is built on the joint efforts and dedication of its members to improve animal welfare and science in Switzerland.

2 Introduction



Executive Director Jenny Sandström

The 3RCC is committed to an active cooperation with universities, industry, authorities and animal welfare associations. The 3RCC promotes the 3R principle (replace, reduce, refine) within the four strategic mandates as laid out in its performance agreements with its funders: **research, education, monitoring and communication.**

Research funding – Since its inception in 2018, the 3RCC has provided a total of CHF 3.86 million in research funding for scientifically-sound projects with an outstanding 3Rs impact. The Open Call funding scheme with annual funds worth about CHF 1.2 million, has attracted a broad range of applications across all major research fields in the life sciences.

Research and monitoring – Integral to the work of the 3RCC, is its internal project portfolio, which include various surveys monitoring 3Rs implementation progress in the areas of education and research. At the end of 2020 two reports were in the final stages of completion. They will serve as a basis for published reports as well as projects to address identified needs.

Education – The 3RCC takes an active role in supporting the coordination and mapping of existing educational activities covering 3Rs at a bachelor level. The development of targeted training in refinement was a focus in 2020. The execution of these activities was impacted by Covid-19 restrictions, and in response, virtual formats are being developed to address the educational need until on-site trainings will be allowed again.

Communication – The 3RCC is committed to active communication with its stakeholders and the broader public. The first Swiss 3Rs Day congress was held in September 2019 and attracted almost 200 participants from all Life Sciences and beyond. During this funding period, the 3RCC also expanded its international network through collaborative projects with its European peers. At the end of 2020, the first steps were taken to form a Communications Working Group to coordinate efforts among communications experts of the internal stakeholders.

Timeline – major milestones 2018-2020:

2015

2015 Jul –

ERI dispatch (Federal Council, 01.07.2015.

→ www.parlament.ch/centers/eparl/curia/2012/20123660/Bericht%20BR%20F.pdf)

2016

2016 Feb –

(Message from 24 Feb. 2016,
FF 2016 2917-3178: p. 3041.

→ <https://www.admin.ch/opc/fr/federal-gazette/2016/2917.pdf>)

2017

2017 Oct –

Funding request for the establishment of a Swiss Competence Center 3Rs (3RCC) – (Appreciation of the “Funding request for the establishment of a Swiss Competence Center 3Rs (3RCC)” under art. 15 Federal Act on the Promotion of Research and Innovation (RIPA). Swiss Science and Innovation Council (SSIC)

→ https://www.swir.ch/images/stories/pdf/en/20171218_SSIC-3RCC_FinalReport_EN_DEF.pdf

2018

2018 Mar –

Foundation Swiss 3R Competence Centre (3RCC)

Staff recruitment completed – 2018 Aug

Registration Registry of Commerce – 2018 Sep

Launch of funding scheme – 2018 Nov

Adoption of research funding regulations – 2018 Dec

2019

2019 Jan – Swiss 3Rs Survey

2019 Apr – 3Rs Competence Mapping

2019 Jun – 2018 Open Call

2019 Jun – Biostatistics Task Force

2019 Sep – Swiss 3Rs Day

2019 Oct – Culture of Care Working Group

2019 Dec – Submission of proposal on 3Rs NRP to SERI

2020

Organisational development – 2020 Feb

Relaunch of 3RCC website – 2020 Mar

2019 Open Call – 2020 Jun

Pan-European 3Rs Webinar – 2020 Sep

Formation Management Team – 2020 Nov

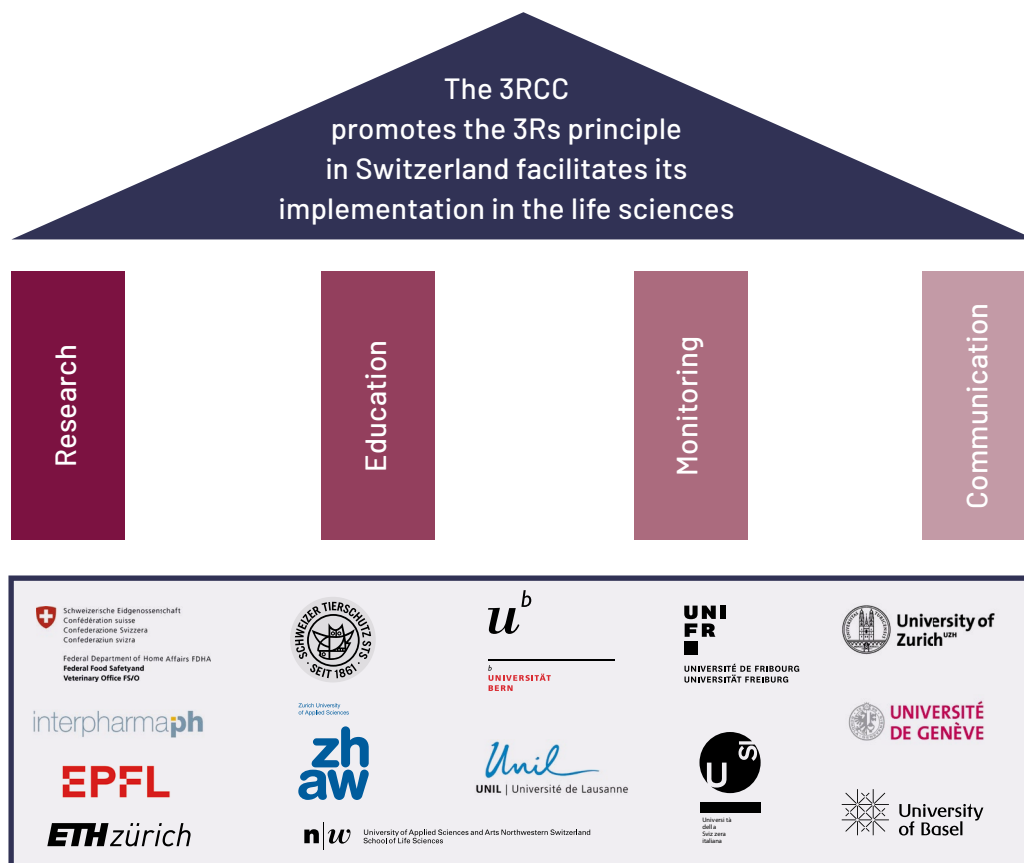
Completion 3Rs Competence Mapping – 2020 Dec

Communications Working Group – 2020 Dec

2021

3 Organization

3.1 Purpose and mandates



The 3RCC was formed through a joint initiative of academia, industry, regulators, government and an animal welfare organisation. The 3RCC is a research infrastructure of national importance working on a non-commercial basis according to article 15 of the Federal Act on the Promotion of Research and Innovation (RIPA).

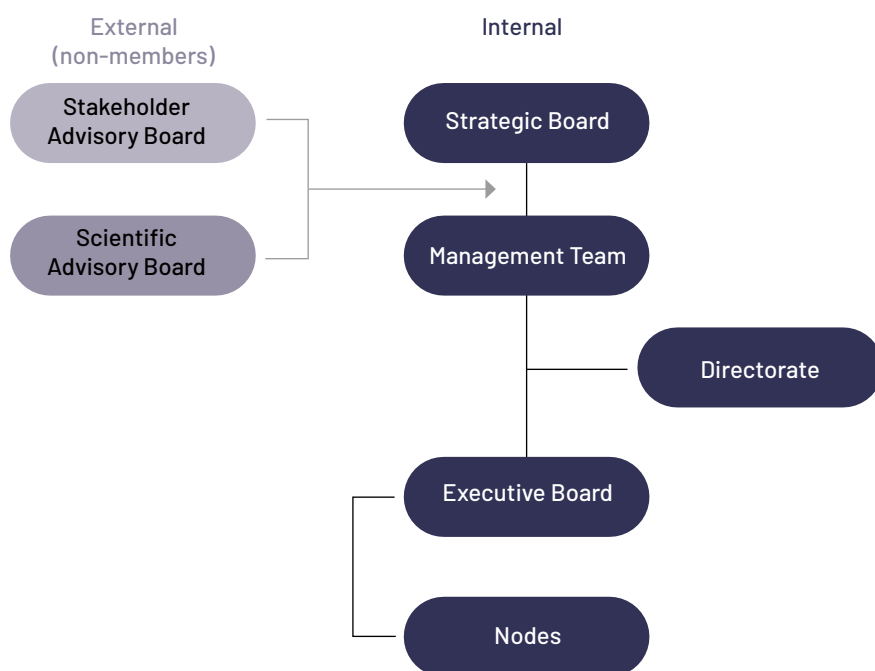
The 3RCC receives its funding from the federal funders SERI and the Federal Food Safety and Veterinary Office (FSVO), as well as a sponsorship from Interpharma. Under RIPA Art.15 the federal funds are matched by in-kind contributions by the member institutions. The 3RCC's funds are allocated across the four mandates in accordance with the performance agreements with its funders.

The 3RCC has a broad internal stakeholder representation and its members include:

- Eleven universities and higher education institutions from Switzerland including: Ecole Polytechnique Fédérale de Lausanne (EPFL), Federal Institute of Technology Zurich (ETH Zurich), Università della Svizzera Italiana (USI), University of Applied Sciences and Arts Northwestern Switzerland (FHNW), University of Basel, University of Bern, University of Fribourg, University of Geneva, University of Lausanne, University of Zurich, Zurich University of Applied Sciences (ZHAW);
- The Swiss association of research-based pharmaceutical companies (Interpharma);
- The Swiss Federal Food Safety and Veterinary Office (FSVO); and
- The Swiss Animal Protection (SAP) organization.
- Observer members: the Swiss State Secretariat for Education, Research and Innovation (SERI), and the Swiss Federal Office of Public Health (FOPH).

3.2 Organisational governance

Organigram



During 2020, the 3RCC underwent an organisational review aimed at further defining the roles of its bodies and establishing further operative processes. As a result of this work a Management Team was established with the purpose of expediting operative decision-making, and a new organigram was adopted in November 2020.

Although a part of the organizational statutes, the **Stakeholder Advisory Board (StAB)** has not yet been established.

3.3 Boards and Teams

Strategic Board

The **Strategic Board (SB)** comprises representatives of the 3RCC members as well as representatives of nominated observer members (SERI and the Federal Office of Public Health (FOPH)). The SB convenes at least once yearly for the **General Assembly (GA)**, which represents the governing body of the association. It is responsible for the association's statutes, the nomination of SB members and observer members and it contributes with resources to the maintenance of the centre. The SB defines the strategic orientation of the centre and decides about funding schemes and research projects based on recommendations from the Scientific Advisory Board. Furthermore, it nominates the 3RCC Executive Director as well as the members of the Scientific and Stakeholders Advisory Boards.

Executive Board

The **Executive Board (EB)** is composed of representatives of higher education institution (HEI) members (Nodes = HEIs) referred to as **Node Coordinators**, representatives of the Swiss Animal Facilities Network (SAFN), the Animal Welfare Officers Network (AWON), the Institute of Laboratory

Animal Sciences (Institut für Labortierkunde, LTK) and the Réseau des Animaleries Lémaniques (RESAL). The role of the EB is to implement the 3RCC's strategy in the areas of research, education, monitoring and communication, advised by the Scientific Advisory Board. The Node Coordinators further support the mission of the Centre by developing 3Rs implementation measures locally at the nodes.

Scientific Advisory Board

The **Scientific Advisory Board (SAB)** is composed of five to seven internationally recognized 3Rs experts nominated by the SB. The role of the SAB is to provide scientific expertise to the Executive Board, and to evaluate the progress and functioning of the 3RCC. Furthermore, the SAB is in charge of the evaluation of proposals submitted within the calls of the 3RCC's funding schemes. For this activity, the SAB is supported in the review process by further external international expertise on specific subject matters.

Management Team

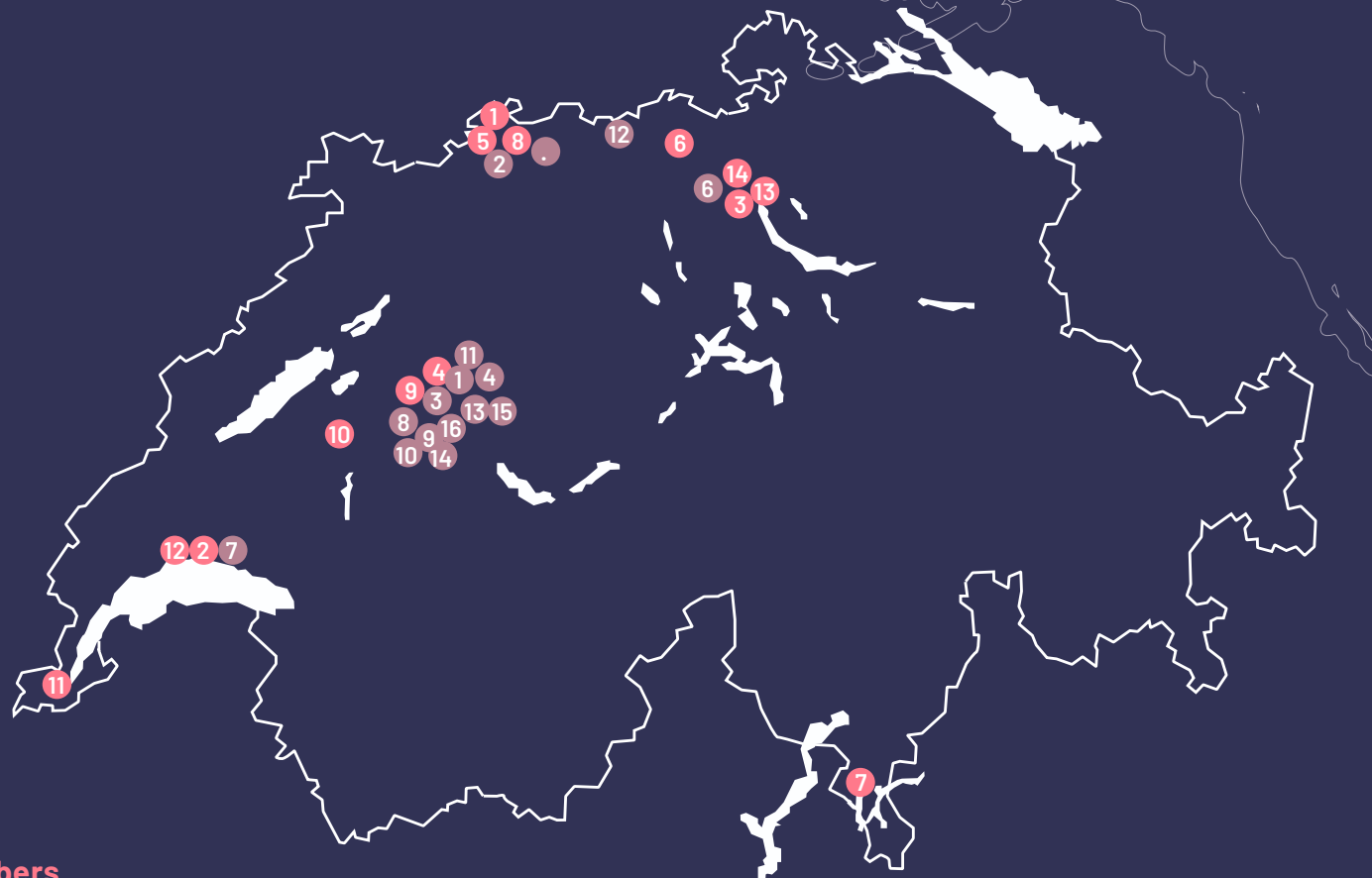
The **Management Team (MT)** is composed of one representative from each of the internal bodies (SB, EB and Directorate) with the purpose of enabling effective exchanges between the organizational bodies, controlling and monitoring of operations, and oversight of the ongoing activities within the Centre, ensuring alignment with the overarching strategy as defined by the SB.

Directorate

The Directorate team coordinates and leads the operations of the 3RCC and is directly employed by the Centre. The Directorate team closely collaborates with the EB on targeted mandate projects and reports to the MT and the SB. The team is composed of the Executive Director and several Officers who directly support the implementation of the strategic measures within specific areas of the service mandates, as well as administration.

→ A FULL DECLARATION OF ALL BOARDS AND TEAM MEMBERS IN THE FUNDING PERIOD 2018-2020 CAN BE FOUND AT THE END OF THE REPORT (PAGE 26).

3.4 Map with members and partners

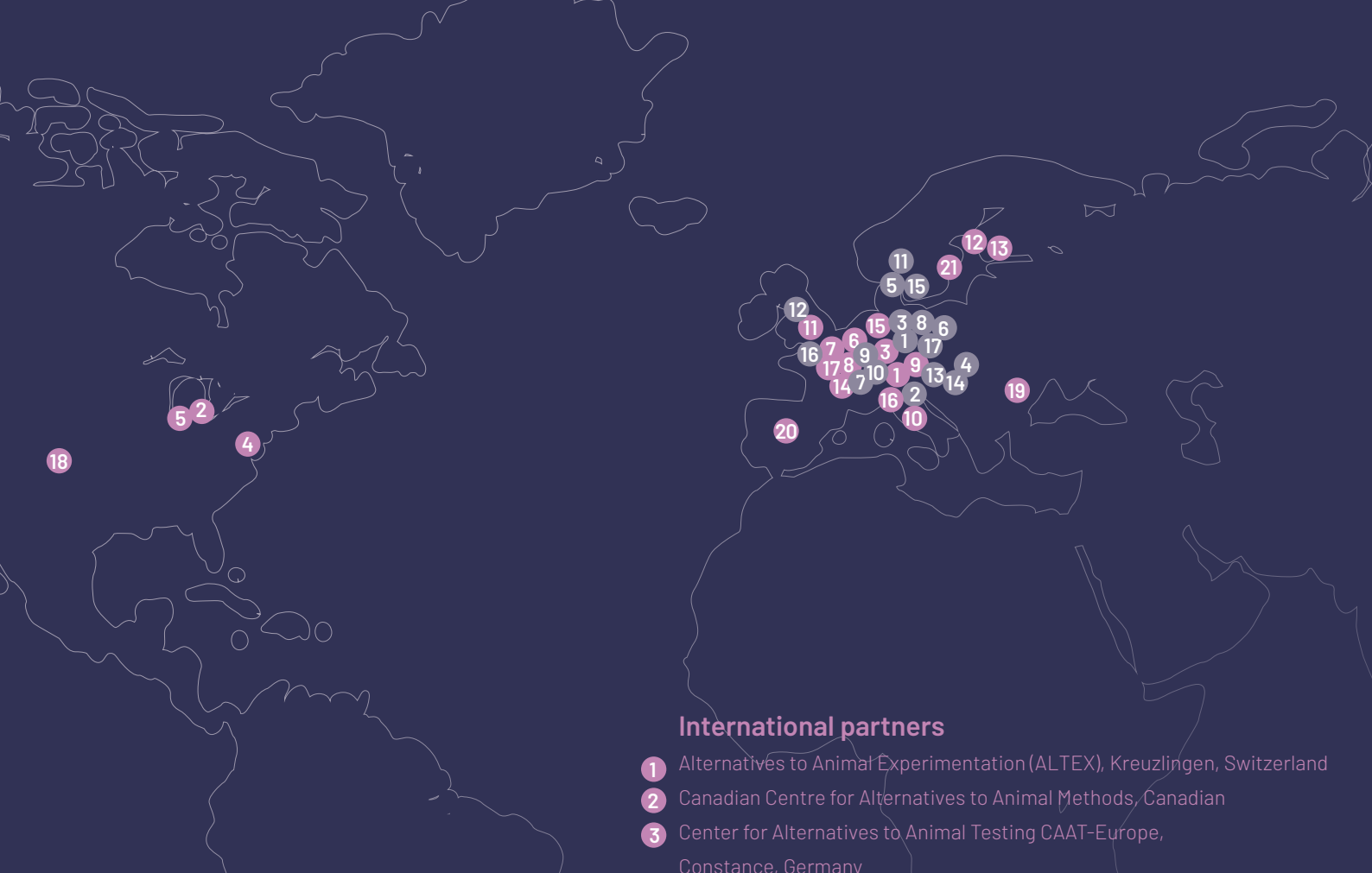


Members

- 1 Association of the Swiss pharmaceutical industry (Interpharma)
- 2 Ecole polytechnique fédérale de Lausanne (EPFL)
- 3 Eidgenössische Technische Hochschule, ETH Zurich (ETH)
- 4 Federal Food Safety and Veterinary Office (FSVO)
- 5 Swiss Animal Protection (SAP)
- 6 University of Applied Sciences and Arts Northwestern Switzerland (FHNW)
- 7 Università della Svizzera italiana (USI)
- 8 University of Basel (UniBas)
- 9 University of Bern (UniBe)
- 10 University of Fribourg (UniFr)
- 11 University of Geneva (UniGe)
- 12 University of Lausanne (Unil)
- 13 University of Zurich (UZH)
- 14 Zurich University of Applied Sciences (ZHAW)

Swiss Partners

- 1 Animalfree Research
- 2 Animal Research Tomorrow (ART), Basel
- 3 Ethics Committee for Animal Experimentation (ECAE), Bern
- 4 Federal Ethics Committee on Non-Human Biotechnology ECNH
- 5 Federal Office for Public Health (FOPH), Bern
- 6 Institute für Labortierkunde, University of Zurich (LTK)
- 7 Réseau des Animaleries Lémaniques (RESAL)
- 8 Swiss Academies of Arts and Sciences
- 9 Swiss Academy of Sciences
- 10 Swiss Animal Facilities Network SAFN
- 11 Swiss Animal Welfare Officer Network AWO-N
- 12 Swiss Association of Veterinarians in Industry and Research (SAVIR), Stein, Aargau
- 13 Swiss Laboratory Animal Sciences Association (SGV)
- 14 Swiss National Science Foundation
- 15 State Secretariat for Education, Research and Innovation (SERI), Bern
- 16 Swissuniversities



Other 3Rs centres

- 1 Center for Alternatives to Animal Testing CAAT-Europe, Konstanz, Germany
- 2 Centro 3R, Pisa, Italy
- 3 Charité 3R Berlin, Berlin, Germany
- 4 Czech 3Rs Center, Prague, Czech Republic
- 5 Danish 3R-Centre, Copenhagen, Denmark
- 6 European Society For Alternatives To Animal Testing (EUSAAT), Vienna, Austria
- 7 France Center 3R (FC3R), Paris, France
- 8 Freie Universität Berlin (BB3R), Berlin, Germany
- 9 Innovation Centre for 3R Alternatives (IC-3Rs), Brussels, Belgium
- 10 Interdisciplinary Centre for 3Rs in Animal Research (ICAR3R), Giessen, Germany
- 11 National Centre for the Replacement, Refinement & Norway's National Consensus Platform for the Replacement, Reduction and Refinement of Animal Experiments (Norecopa), Oslo, Norway
- 12 Reduction of Animals in Research (UK) NC3Rs, London, UK
- 13 RepRefRed Society (Graz, Austria)
- 14 Slovak National Platform for 3Rs (SNP3Rs), Bratislava, Slovakia
- 15 Swedish 3Rs Centre, Jönköping, Sweden
- 16 3Rs-Centre Utrecht Life Sciences (ULS), Utrecht, Netherlands
- 17 3R Center Tübingen, Tübingen, Germany

International partners

- 1 Alternatives to Animal Experimentation (ALTEX), Kreuzlingen, Switzerland
- 2 Canadian Centre for Alternatives to Animal Methods, Canadian
- 3 Center for Alternatives to Animal Testing CAAT-Europe, Constance, Germany
- 4 Center for Alternatives to Animal Testing (CAAT), Baltimore, USA
- 5 Centre for the Validation of Alternative Methods (CCAAM/ CaCVAM), Windsor, Ontario, Canada
- 6 Dutch-Belgian Society for In Vitro Methods (INVITROM), Brussels, Belgium
- 7 European Consensus Platform on Alternatives (ECOPA), Brussels, Belgium
- 8 European Partnership for Alternative Approaches to Animal Testing (EPAA), Brussels, Belgium
- 9 European Society for Alternatives to Animal Testing Europe (EUSAAT), Vienna, Austria
- 10 European Union Reference Laboratory for alternatives to animal testing (EURL-ECVAM), Ispra, Italy
- 11 Federation of European Laboratory Animal Science Associations (FELASA)
- 12 Finnish Centre for Alternative Methods FICAM, Tampere, Finland
- 13 Finnish National Consensus Platform for Alternatives (Fincopa), Tampere, Finland
- 14 Francopa, Paris, France
- 15 German Centre for the Protection of Laboratory Animals (Bf3R), Berlin, Germany
- 16 Italian platform for alternative methods (IPAM), Bologna, Italy
- 17 National Institute for Public Health and the Environment (RIVM), Utrecht, Netherlands
- 18 North American 3Rs Collaborative (NA3RsC), Denver, USA
- 19 Romanian Center for Alternative Test Methods (Romania) ROCAM, Bukarest, Romania
- 20 Spanish Network for the Development of Alternative Methods (REMA), Madrid, Spain
- 21 Swedish Fund for Research Without Animals, Stockholm, Sweden





4 Activities and achievements

4.1 Research

Core to 3RCC's activities is its research funding programme. From 2018 to 2020 the 3RCC has, through its Open Call funding schemes, supported projects that cover all aspects of the 3Rs principle (replacement, reduction, and refinement) and catalytic to a broad advancement of 3Rs research in Switzerland.

The Open Call funding scheme aimed to attract 3Rs research proposals from any research field and/or discipline responding to a broad range of project types from method development to translational approaches. Projects were evaluated by the SAB and a number of expert international reviewers, who selected the funded projects based on their scientific quality, feasibility, and 3Rs impact.

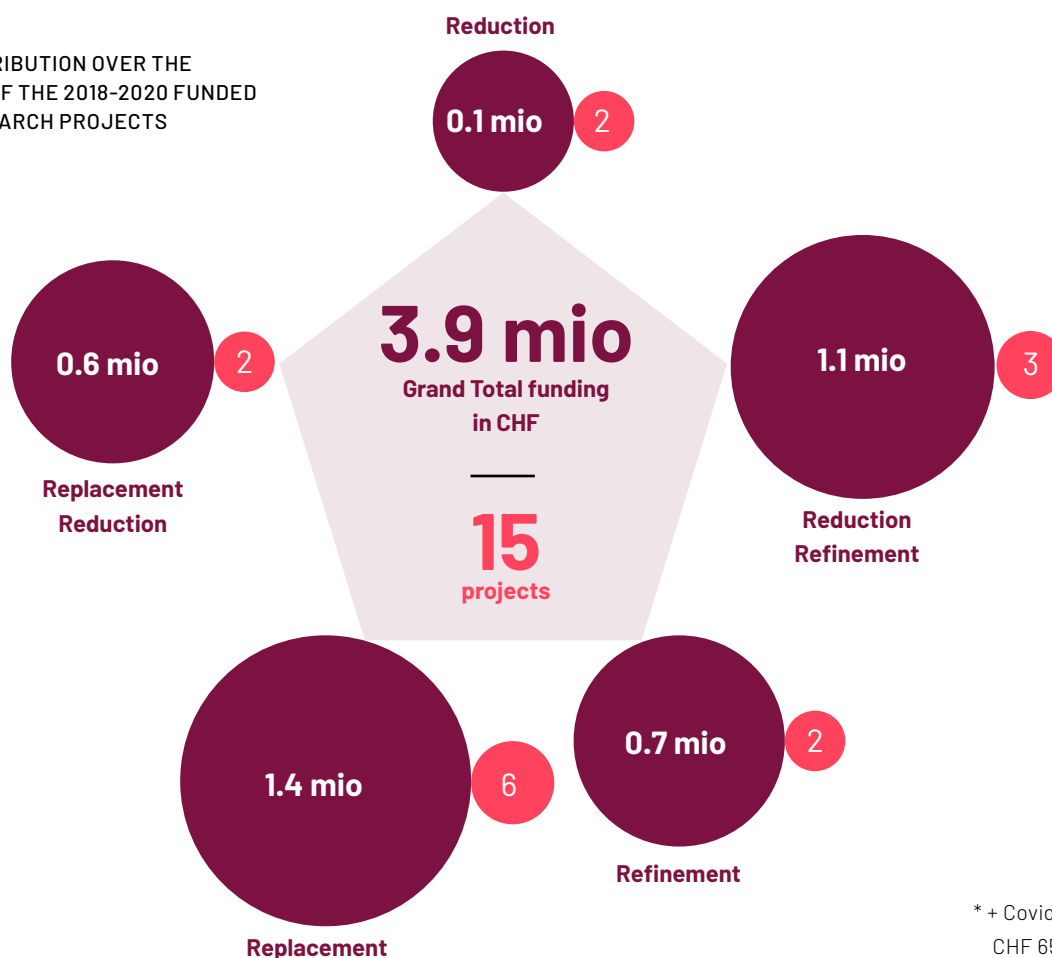
To learn more about our research funding, or to apply for research grants, please visit our [website](#) →

The open call funding scheme in numbers

The 3RCC's Open Call funding scheme provided total funding worth CHF 3.86 million in the first finance period for 15 research projects, covering all research areas of the 3Rs within the portfolio. These projects targeted 3Rs advancement in research fields such as oncology, neurology and infectious diseases where relatively high number animals are used.

53% of the total research funding was invested in projects focusing on advancing alternative models to animal research.

DISTRIBUTION OVER THE
3RS OF THE 2018-2020 FUNDED
RESEARCH PROJECTS



Funded projects 2018-2020

Table overview of the research projects funded in 2018-2020. For more information on the individual projects please visit our [website](#) →.

Open Call	PI and institute	Title
OC-2018-001	PROF. KRISTIN SCHIRMER , Swiss Federal Institute of Aquatic Science and Technology (Eawag)	Nutritional requirements of fish cell lines – development of a serum-free culture medium (L-15Plus)
OC-2018-002	DR PETRA SEEBECK , Zurich Integrative Rodent Physiology (ZIRP), University of Zurich DR STEPHAN ZEITER , AO Research Institute Davos	Rodents have a right to best surgical practice
OC-2018-003	DR. MED. VET. PHILIPPE BUGNON Institute of Laboratory Animal Science LTK, University of Zurich Co-applicants: PROF. THORSTEN BUCH , University of Zurich; PROF. FRANK BRAND , MathYou GmbH	Breeding management software for genetically modified rodents
OC-2018-004	PROF. MATTHIAS LÜTOLF , EPFL Co-applicants: NICOLAS BROGUIÈRE , EPFL; GERALD SCHWANK , ETHZ	Recombinant laminin-like proteins for organoid cultures free of animal-derived basement membrane extract
OC-2018-005	DR PATRICK TSCHOPP , Laboratory for Regulatory, Evolution, University of Basel	A CRISPR/Cas9-screening platform to decipher conserved cell fate specification networks in vivo
OC-2018-006	PROF. JEAN-PAUL VALLÉE , University of Geneva and University Hospital of Geneva Co-applicants: PROF. MAURICE BEGHETTI , DR TORNIKE SOLOGASHVILI , DR ANNE-LISE HACHULLA , CÉLIA TOMASSETTI , KÉVIN PONCHANT , MÉLANIE FREI , HUG	3D heart models for cardiac surgery training
OC-2019-003	DR MARIANNA KRUIHOF-DE JULIO , PROF. MARK RUBIN , Department for BioMedical Research (DBMR), University of Bern	Development of a platform for GU cancer patient-derived organoids
OC-2019-009	PROF. JOHANNES BOHACEK , Department of Health Sciences and Technology, ETH Zurich	BEHAVE: A toolkit for deep-behavior profiling of laboratory rodents
OC-2019-019	PROF. CHRISTIANE ALBRECHT , Institute of Biochemistry and Molecular Medicine, University of Bern PROF. FRANTIŠEK ŠTAUD , Pharmaceutical Faculty, Charles University, Hradec Kralove, Czech Republic DR CHENNAKESAVA CUDDAPAH , Curio Biotech SA, Visp, Switzerland	Engineering a novel cell-based model for assessing materno-fetal drug transfer during pregnancy
OC-2019-025	PROF. OLIVIER GUENAT , ARTORG Center for Biomedical Engineering Research, University of Bern PROF. THOMAS GEISER , Pneumology Department, Inselspital, Bern University Hospital	IPF-on-Chip: Replacing the bleomycin induced lung injury and fibrosis model with lung-on-chip technology
OC-2020-002	DR RUSLAN RUST , PROF. CSABA FÖLDY , DR CHRISTIAN TACKENBERG , University of Zurich PROF. JOHANNES BOHACEK , ETH Zurich	Experimental toolkit to evaluate cell-based therapies in the mouse brain
OC-2020-003	DR HEIKE SCHMIDT-POSTHAUS , PROF. IRENE ADRIAN-KALCH-HAUSER , University of Bern	Reducing the need for lethal health monitoring in trout
OC-2020-004	PROF. HANNO WÜRBEL , DR IVANA JARIC , University of Bern	Best practice guidance for including sex as a biological variable in animal research
OC-2020-011	DR JAMIE LITTLE , PROF. KONRAD BASLER , DR ERICH BRUNNER , DR HASSAN FAZILATY , University of Zurich	Identifying new regulators of cell invasion in colorectal cancer using the Drosophila adult intestine
OC-2020-015	DR ANTHONY LAUGERAY , PROF. PAOLA BEZZI , University of Lausanne PROF. ANTHONY DELALANDE , University of Orléan, France	Refining intracerebral administration of drugs with sonoporation-activated microbubbles

4.2 Education

Bachelor courses in 3Rs Education (Ongoing)

In 2018, the 3RCC conducted a survey on the currently existing educational programmes and courses covering 3Rs across its higher-education members. This served as the basis for a gap and needs analysis of 3Rs education on Bachelor level in Switzerland. In 2019, the 3RCC published a recommendation of a basic requirement for 3Rs education at Bachelor level, with the purpose of guiding its HEI members in better implementing 3Rs education at Bachelor level in life sciences, bioengineering, medical, veterinary, environment, agricultural sciences and pharmacy. The recommendation covers a broad range of areas, such as ethical principles, Swiss animal welfare legislation, ethical responsibility and scientific rigour, and examples of 3Rs methodologies.

3rs Day 2019 (Completed)

The 3RCC organised the first Swiss **3Rs Day** → on 2 September 2019, at the occasion of the 60 years of the 3Rs principles published by Russel and Burch in 1959. The programme offered keynote lectures and presentations on in vitro and in silico replacement methods (organoids, cell cultures, organ-on-chips, non-animal-derived antibodies), as well as alternatives in education and training. During the sessions on reduction, experts presented strategies to reduce the number of animals and tackle the reproducibility challenge through use of imaging techniques, biostatistical approaches and a platform to share organs and tissues. Refinement specialists presented their work in the facilitation of animal welfare improvement through the support of a culture of care and the classification of severity degrees in animal experimentation. The 186 participants received an accreditation from the Federation of Swiss Cantonal Veterinary Officers (VSKT) for their attendance.

Pan-European Webinar 2020 (Completed)

Due to COVID-19 restriction, the 3RCC cancelled its annual 3Rs conference. Instead, it took the opportunity to organize a joint webinar entitled *The 3Rs Across Europe* with its partner organisations Charité 3R, 3Rs-Centre Utrecht Life Sciences, the Swedish 3Rs Centre, the Danish 3R-Center and the NC3Rs. The webinar took place on the 22-24 September 2020 at lunchtime. Nearly 350 Swiss participants attended the lectures across the three days. Researchers from Germany, Sweden, Denmark, UK, the Netherlands and Switzerland contributed to the programme. The 3RCC issued 274 accreditation certificates for the event

Elearning tool (Completed)

The 3RCC also contributed to the development of an eLearning tool to promote alternatives to animal testing. The **eLearning tool** → is developed within an international consortium upon request from the European Commission. It is comprised of a first module dedicated to the 'Searching for, and identification of, existing alternative non-animal methods and approaches', and a second module dedicated to the 'Development of reliable and relevant in vitro methods and approaches for scientific purposes and regulatory use'.

4.3 Communication

Awards

Kristin Schirmer and **Melanie Fischer** from the Swiss Federal Institute of Aquatic Science and Technology (EAWAG) received the **3RCC's 3Rs Award 2019** for developing a toxicity test that uses cultured fish gill cells instead of fish, thereby saving thousands of fish lives. Normally scientists must expose fish to chemicals or water samples for four days and record death events to assess toxicity. The new toxicity test uses cell lines cultured from rainbow trout gills in the laboratory to reliably determine acute toxicity levels. For the first time ever, the researchers managed to obtain ISO certification and OECD approval for such a test. The awardees received their prize during a dedicated session at the 3Rs Day on 2 September 2019.

The **3Rs Award 2020** went to **Ronald Dijkman** at the Institute for Infectious Diseases of the University of Bern. Dijkman and his team collect human cells lining the airways and culture these cells in a petri dish to study how viruses, such as SARS-CoV-2, interact with the cells, tissues and organs. With his model for respiratory infectious diseases, such as Covid-19, Dijkman can replace certain experiments that would have otherwise required animals. The **Young 3Rs Investigator Award 2020** went to PhD student **Joseph Scarborough** for his work at the Institute of Veterinary Pharmacology and Toxicology at the University of Zurich. Scarborough developed a novel method to orally administer pharmaceutical substances to mice with a sweetened solution, thus motivating the animals to voluntarily take the pharmaceutical substances.

Swiss 3RCC in the media

The 3RCC published press releases on a survey, its awards and on the results of its three calls during its first finance period. In addition, the centre was cited in several newspapers and magazines, primarily covering aspects surrounding the popular initiative, which aims to ban animal research and clinical studies. [St. Galler Tagblatt](#) → reported about the research ban initiative, and ways to improve animal experiments in the magazine of the University of Lausanne.

Networking and cooperations

In response to the Covid pandemic, the NC3Rs initiated a cooperation between six European 3Rs centres:

- The Danish 3R-Center, Denmark
- NC3Rs, United Kingdom
- 3Rs-Centre Utrecht Life Sciences, the Netherlands
- The Swedish 3Rs Center, Sweden
- Charité 3R, Berlin, Germany
- Swiss 3R Competence Centre, Switzerland

Initially, this cooperation focused on offering the European 3Rs community a virtual alternative for face- to-face continuing education. This resulted in the joint organization of a successful virtual **Pan-European Webinar 2020**. The group has since continued to hold regular meetings to engage in an open dialogue on emerging issues in the 3Rs field and to elaborate on future webinars and events.

EU3Rnet consensus statement → was established in 2019 and considers all aspects of the 3Rs Principle; replacement, reduction and refinement. The statement was developed and signed by 25 organisations with 3Rs-focus (listed in the publication) and aims to better communicate and disseminate the 3Rs Principle by encouraging researchers in the use of alternative models and reduction of animals numbers. The EU3Rnet emphasizes the importance of broadly engaging with the research community, from animal caretakers to research managers, and to engage in active dissemination and communication efforts to spread knowledge and increase the visibility of the 3Rs.

4.4 Monitoring

3Rs survey (Completed)

A 2018 survey among researchers working with animals at Swiss universities, hospitals, non-profit organisations, the industry, regulators and the government showed that scientists are committed to applying the 3Rs principle because they are concerned about animal welfare and to improve the scientific quality of their research. They are well aware of the 3Rs concept and apply it in their daily work. The survey shows that most researchers are using more than one approach in parallel, combining the use of non-animal and animal procedures, a strategy that allows limiting the use of animals only to necessity.

Map of competences (Ongoing)

This project aims to establish a database with research-relevant entries on 3Rs-related skills of individual research groups across Switzerland. The searchable database will provide detail on distinct competencies for all relevant research areas (e.g. oncology, neuroscience) as well as details on procedures with animals (e.g. animal handling methods), in silico, or in vitro technologies and other specific 3Rs-relevant expertise (e.g. education, biostatistics, ethics). The intention is that researchers or trainers/educators could use this database to establish contact with other groups that already have some expertise in the area. In parallel, the 3RCC will use the database to monitor the status of 3R-related competencies across Switzerland.

Animal use in Swiss science (Completed)

Alongside the yearly report on the use of animals used in research in Switzerland, the Federal Food Safety and Veterinary Office releases more in-depth information from expired licenses. The Swiss 3RCC allocated each of the expired licenses between 2017 and 2019 into specific research areas. In this report, you can find information on the number of licenses and number of animals broken down by year, research area and purpose, species, and degrees of severity. The report can be found on our [website](#) →

Animal use in Swiss education (Completed)

According to a survey the 3RCC conducted among its 11 member universities, a total of 6,925 animals were used in education in 2018. Mice were the most frequently used animals with 41%, followed by other rodents with 16%. These animals were primarily used in graduate and postgraduate training courses, while veterinary medicine and general biology each accounted for about a quarter. The main obstacles for the use of non-animal alternatives in education and training include a lack of alternatives, a lack of knowledge of their existence, a lack of teaching experience with such alternatives, and financial reasons. The report can be found on our [website](#) →

Non-aversive handling survey (Ongoing)

The way mice are handled is of large interest for animal welfare as mice remain the most used animal in scientific research and handling may affect experimental outcomes. Over the past decade several studies suggested that classical handling by the base of the tail may lead to stress and anxiety in the animal and that alternatives, such as tunnel or cup handling, can improve interactions between the animal and the experimenter. A survey showed that 90% of respondents were aware of such non-aversive methods, and 58% had used them. Based on survey results, the 3RCC will initiate projects to promote the further implementation of gentle handling methods in Swiss animal facilities. Further information can be found on our [website](#) →

4.5 Working Groups and other initiatives

Culture of care

The 3RCC hosts the Swiss Culture of Care (CoC) group initiated in 2019 to foster a proactive, empathic and caring mindset within organisations conducting animal research. Through meetings, seminars, workshops, and other means of dissemination, the group aims to establish a dedicated commitment to improve animal welfare, scientific quality, care of the staff and transparency at Swiss institutions. The 3RCC hosts meetings for animal facility managers, scientists, animal care takers, AWOs, 3R coordinators and other experts in the field of animal care, animal welfare and 3Rs to exchange best practice examples, problems encountered and to plan and implement common CoC initiatives.

Biostatistics Taskforce

The 3RCC has established a nationwide biostatistics task force to exchange and coordinate support for academic researchers at Swiss higher education institutes in areas of experimental design, data analysis and reporting related to animal experimentation and/or alternatives to animal experimentation. Furthermore, the task force aims to develop a strategy on how to best support researchers conducting animal experiments in Switzerland.

National Research Programme, NRP

In view of the initiative aiming to ban animal and human experimentation, the State Secretariat for Education, Research and Innovation (SERI) and the Federal Food Safety and Veterinary Office (FSVO) mandated the 3RCC to assess the opportunity to launch a national research programme in the 3Rs field. To fulfil this mandate, the 3RCC prepared a concept document identifying the research priorities in each of the 3Rs, as well as the financial needs. The National Research Programme 79 “[Advancing 3R – Animals, Research and Society](#)” → was launched in February 2021.

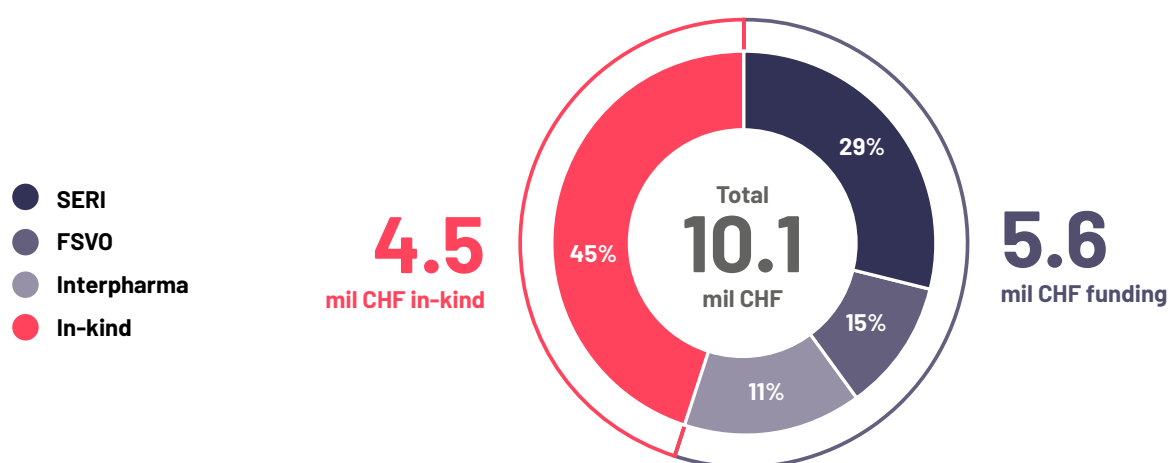


5 Financial report

Incoming funding

Total funding during the period 2018 – 2020 was CHF 10.1 million, whereby **financial income** amounted to CHF 5.6 million, of which federal funds worth CHF 4 million were matched 1:1.1 with **in-kind contributions** worth CHF 4.5 million by the higher educational institution members. **Financial income** remained little changed year-on-year during the financial period with the contributions of SERI, FSV0 and Interpharma accounting for 29%, 11% and 15% of the total respectively. The HEI members of the 3RCC contributed 45% to the total funding **in-kind**, in the form of 3Rs investments at their institutions and services provided to the 3RCC.

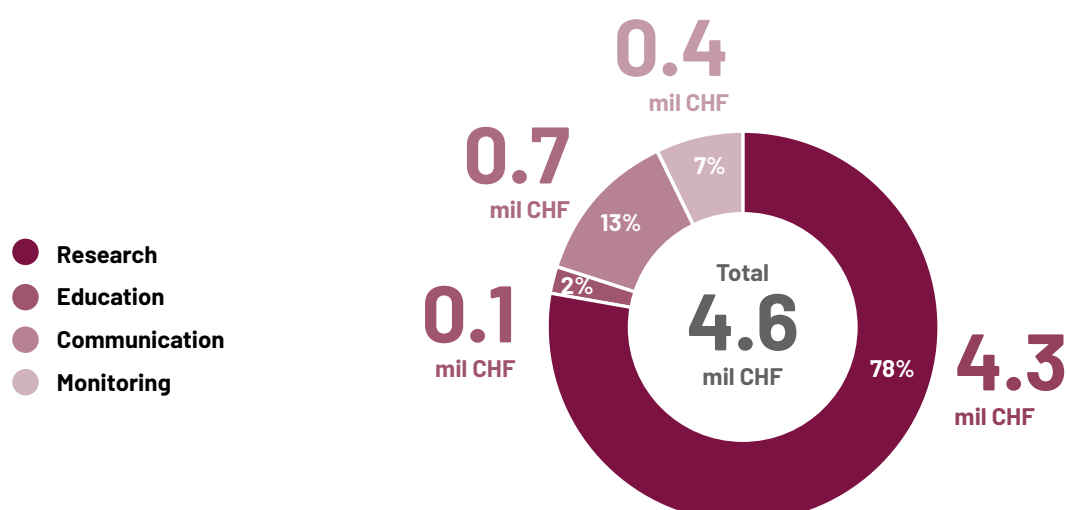
Funding 2018–2020



Income allocation

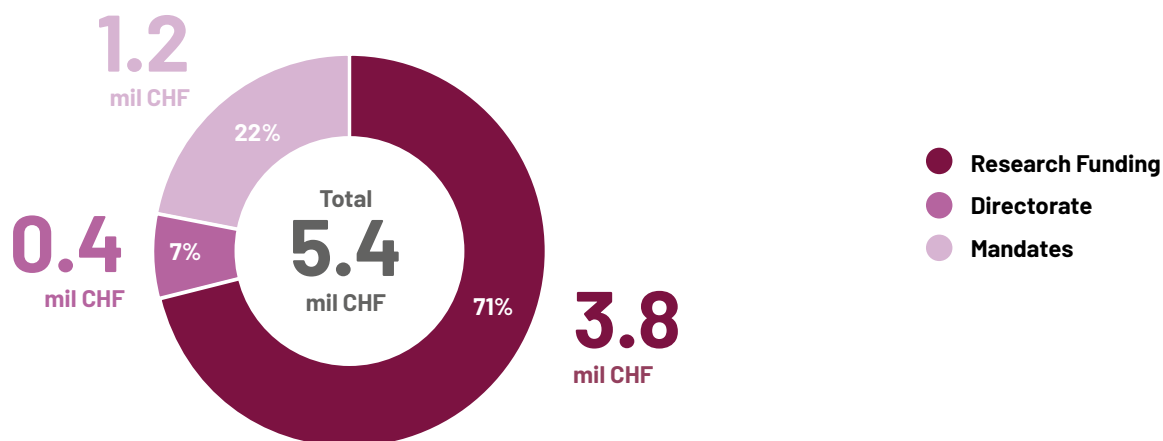
Income was allocated in accordance with the performance agreements between the 3RCC and its funders. With CHF 4.3 million, or 78% of the total, the large majority of the funds were allocated to the **research** mandate, while **education** received CHF 105,000 (2%), **monitoring** CHF 410,600 (7%) and **communication** CHF 704,000 (13%) of the federal and sponsor funding.

Income allocation across mandates



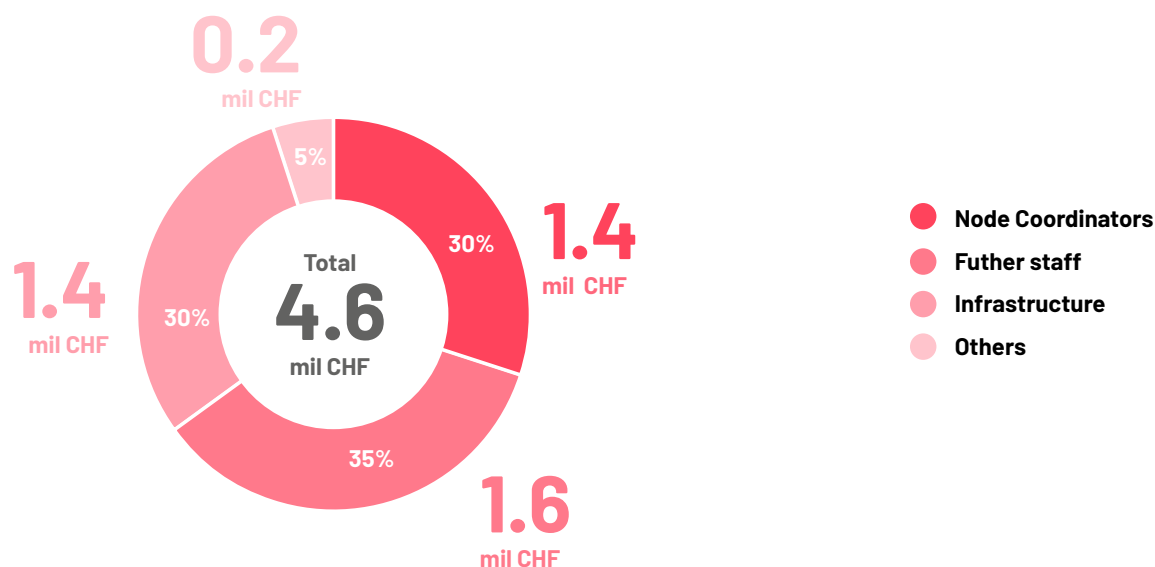
Expenditure

The Open Call research funding scheme and additional research funding accounted for 71% of the total expenditure worth CHF 5.4 million. 3RCC-driven projects in the four strategic service mandate areas, research, education, monitoring and communication, received 22% of the funds, whereas the operative costs of the directorate accounted for 7% of the spending.



Distribution of in-kind contributions

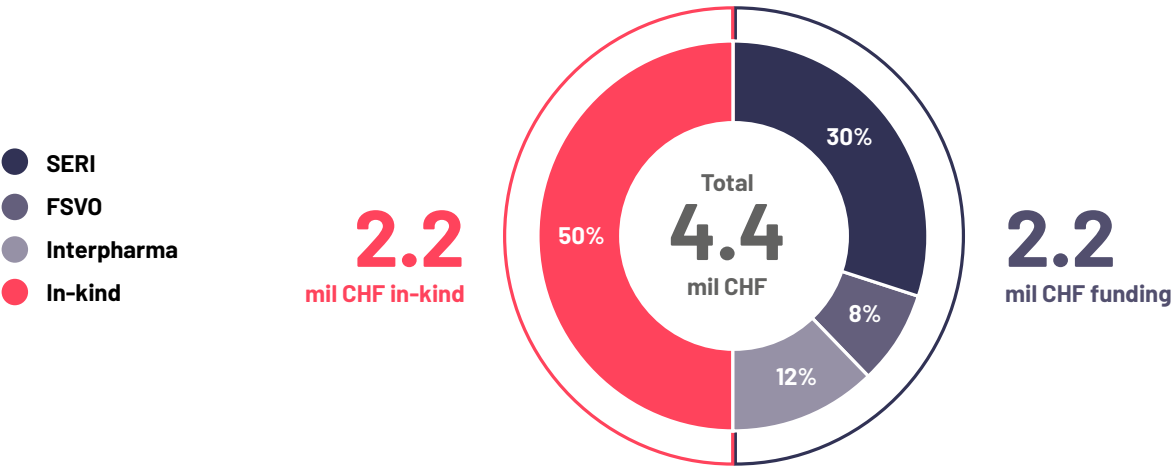
HEIs contribute to the centre in kind by covering expenses of Node Coordinators and further staff salaries, infrastructural investments (e.g. platforms and facilities) and other expenses (e.g. travel and meetings). The total value of in-kind contributions by the HEIs amounted to CHF 4.6 million for the period 2018 – 2020.



Outlook on the 2021-2024 funding

The Centre’s incoming funding for the 2021 – 2024 period is projected to increase by a total of 7.4%, driven by a 34% increase in the SERI contribution, as well as a 44% projected increase in in-kind contributions by the HEI members as compared to the 2018 – 2020 period. Furthermore, in order to better service the education, monitoring and communication mandate areas a redistribution of the budget is envisioned for the new funding period. Under the 2021 – 2024 service agreements with its funders, the 3RCC will provide 55% of its total federal and sponsor funding to its research mandate, whereas education and communication will receive 15% respectively, monitoring 5%, and the remaining 9% will cover the Centre’s operative costs.

Funding forecast 2021-2024



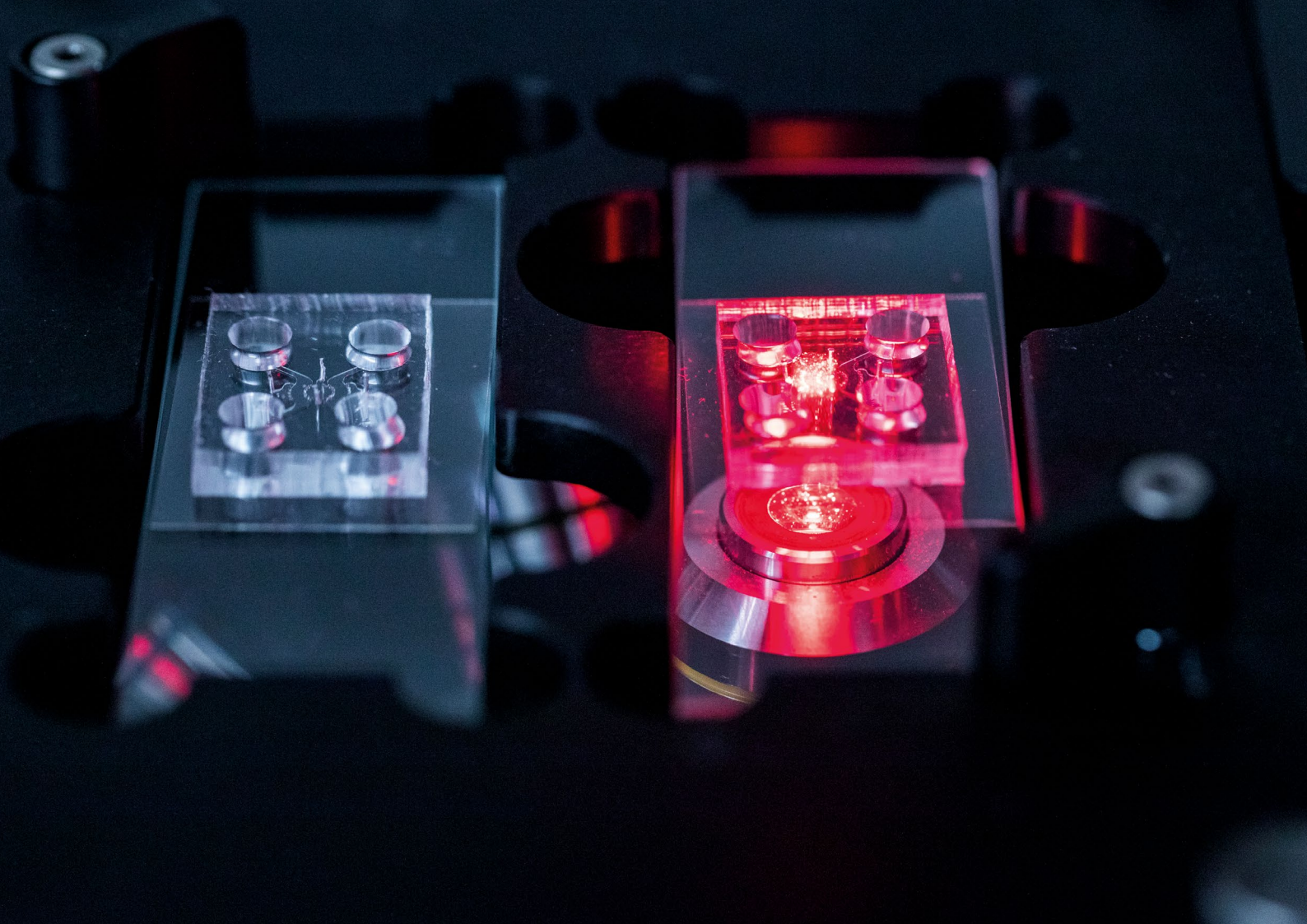
7 Outlook

The primary goal for the centre in 2021 was the development of a long-term strategy to underpin and guide the activities of the Centre in the upcoming funding period. In November 2020, the SB mandated a working group, comprising of representatives of the SB, EB and Directorate, to develop a strategic framework for the funding period 2021 – 2024 and beyond. The group commenced work in December 2020, and the plan was for the strategic framework to be finalized and ratified by the General Assembly in May 2021.

For the 2021 – 2024 period, the 3RCC will seek to reinforce the collaborative efforts with its members. The redistribution of funding across the service mandate areas will open for new opportunities to take broader action to advance 3Rs implementation across the Swiss research landscape. In particular, the joint projects will be geared towards better serving the needs for 3Rs education and training across the 3RCC's member institutions. The 3RCC-driven projects will also aim at strengthening communication and dissemination of the 3Rs beyond the research community and seek new national and international collaboration partners to expand in this area.

By reinforcing its monitoring activities, the 3RCC will seek to better understand the Swiss research landscape and identify future needs in order to more effectively advance the 3Rs implementation. The 3RCC will strengthen its collaborations also in this area to better map the challenges and opportunities linked to 3Rs implementation.

Finally, driving 3Rs research in Switzerland remains at the very core of the organisation's strategic direction. The budgetary increase allows the centre not only to continue providing CHF 1.2 million annually for targeted 3Rs research funding, but it will also allow the centre to diversify its funding efforts in order to strengthen dissemination and communication and to more broadly promote the advancement of the 3Rs in Switzerland.



Tables

Members of the Strategic Board in the period 2017-2020

Affiliation	Name	Role	From - To
Member of the National Council	KATHY RIKLIN	President	Mar 2018 – Dec. 2020
University of Bern	CHRISTIAN LEUMANN	Vice President	Mar 2018 – Dec. 2020
Ecole Polytechnique Fédérale de Lausanne (EPFL)	DIDIER TRONO	Member of the Board	Mar 2018 – Dec. 2020
Federal Institute of Technology Zurich (ETH Zürich)	DETLEF GÜNTHER	Member of the Board	Mar 2018 – Dec. 2020
Food Safety and Veterinary Federal Office (FSVO)	KASPAR JÖRGER	Member of the Board	Mar 2018 – Dec. 2020
Interpharma	BIRGIT LEDERMANN	Member of the Board	Mar 2018 – Dec. 2020
Interpharma	RENÉ BUHOLZER	Member of the Board	Mar 2018 – Dec. 2020
Swiss Animal Protection (SAP)	JULIKA FITZI-RATHGEN	Member of the Board	Mar 2018 – Dec. 2020
Università della Svizzera Italiana (USI)	BENEDETTO LEPORI	Member of the Board	Mar 2018 – Dec. 2020
University of Applied Sciences and Arts Northwestern Switzerland (FHNW)	FALKO SCHLOTTIG	Member of the Board	Mar 2018 – Dec. 2020
University of Basel	ROLF ZELLER	Member of the Board	Mar 2018 – Dec. 2020
University of Fribourg	GREGOR RAINER	Member of the Board	Mar 2018 – Dec. 2020
University of Geneva	DENIS HOCHSTRASSER	Member of the Board	Mar 2018 – Sep. 2018
University of Geneva	JEAN-MARC TRISCONE	Member of the Board	Oct 2018 – May 2020
University of Geneva	DORON MERKLER	Member of the Board	June 2020 – Dec. 2020
University of Lausanne	FRANÇOIS BUSSY	Member of the Board	Mar 2018 – Dec. 2020
University of Zurich	JEAN-MARC FRITSCHY	Member of the Board	Mar 2018 – June 2020
University of Zurich	ONUR BOYMAN	Member of the Board	July 2020 – Dec. 2020
Zurich University of Applied Sciences (ZHAW)	URS HILBER	Member of the Board	Mar 2018 – Dec. 2020
State Secretary for Education, Research and Innovation (SERI)	CYRILLE GIRARDIN	Member of the Board	Mar 2018 – Dec. 2020
Federal Office of Public Health (FOPH)	MARKUS HOFFMANN	Observer Member	Mar 2018 – Dec. 2020

Members of the Executive Board in the period 2017-2020

Affiliation	Name	Role	From - To
Institut für Labortierkunde (LTK)	PHILIPPE BUGNON	Chair (2018-2019) Member of the Board	Mar 2018 – Dec. 2020 June 2019 – Dec. 2020
University of Zurich	PAULIN JIRKOF	Vice Chair (2018-2019) Chair (2019-2020)	Mar. 2018 – May 2019 June 2019 – Dec. 2020
Università della Svizzera Italiana (USI)	SANTIAGO GONZALEZ	Vice Chair (2019-2020) Member of the Board	June 2019 – Dec. 2020 Mar. 2018 – May 2019
3RCC Executive Director	CHANTRA ESKESES	Member of the Board	Mar. 2018 – Nov. 2019
3RCC Executive Director	ROLF HANIMANN	Member of the Board	Dec. 2019 – Oct. 2020
3RCC Executive Director	JENNY SANDSTRÖM	Member of the Board	Oct. 2020 – Dec. 2020
Animal Welfare Officer Network (AWON)	GIERI CAMENISCH	Member of the Board	Mar. 2018 – Dec. 2020
Ecole Polytechnique Fédérale de Lausanne (EPFL)	ISABELLE BARDE	Member of the Board	Mar. 2018 – Feb. 2020
Ecole Polytechnique Fédérale de Lausanne (EPFL)	ALEXANDRE WIDMER	Member of the Board	Sep. 2020 – Dec. 2020
Federal Institute of Technology Zurich (ETH Zürich)	ANNAMARI ALITALO	Member of the Board	Mar. 2018 – Dec. 2018 June 2020 – Dec. 2020
Federal Institute of Technology Zurich (ETH Zürich)	ELENA DOLGODILINA	Member of the Board	Dec. 2018 – May 2020
Réseau des animaleries lémaniques (RESAL)	FABIENNE CHABAUD-BAR-ANDUN	Member of the Board	Mar. 2018 – Mar. 2020
Swiss Animal Facilities Network (SAFN)	DANIELE ROPPOLO	Member of the Board	Mar. 2018 – Oct. 2018
Swiss Animal Facilities Network (SAFN)	ANNE PLANCHE	Member of the Board	Oct. 2018 – Dec. 2020
University of Applied Sciences and Arts Northwestern Switzerland (FHNW)	LAURA SUTER-DICK	Member of the Board	Mar. 2018 – Dec. 2020
University of Basel	ANKE ROHLFS	Member of the Board	Mar. 2018 – Dec. 2020
University of Bern	HANNO WÜRBEL	Member of the Board	Mar. 2018 – Dec. 2020
University of Bern	HOMARE YAMAHACHI	Member of the Board	Mar. 2019 – Dec. 2020
University of Fribourg	ANDRINA ZBINDEN	Member of the Board	Mar. 2018 – Dec. 2020
University of Geneva	ZEINAB AMMAR	Member of the Board	Mar. 2018 – Dec. 2018
University of Geneva	MARJOLAINE PHILIT	Member of the Board	Dec. 2018 – Mar. 2020
University of Lausanne	PIERGIOGIO TOZZI	Member of the Board	Mar. 2018 – July 2018
University of Lausanne	STÉPHANIE CLAUDINOT	Member of the Board	July 2018 – Dec. 2020
Zurich University of Applied Sciences (ZHAW)	MICHAEL RAGHUNATH	Member of the Board	Mar. 2018 – Dec. 2020

Members of the Scientific Advisory Board in the period 2017-2020

Affiliation	Name	Role	From - To
Professor at the Department of cell physiology and metabolism University of Geneva, Switzerland	PIERRE COSSON	Chair	Sep 2018 – Dec 2020
Professor and Director at the Center for Alternatives to Animal Testing Johns Hopkins University, Baltimore, United States	THOMAS HARTUNG	Member of the Board	Sep 2018 – Jul 2019
Professor and Head of the Laboratory of Stem Cell Bioengineering EPFL Lausanne, Switzerland	MATTHIAS LÜTOLF	Member of the Board	Sep 2018 – Oct 2020
Professor and group leader at the Laboratory Animal Science University of Porto, Portugal	ANNA OLSSON	Member of the Board	Sep 2018 – Dec 2020
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	Member of the Board	Sep 2018 – Dec 2020
Professor in Evidence-Based Laboratory Animal Science at the Department for Health Evidence Radboud University Medical Center, Nijmegen, The Netherlands	MEREL RITSKES-HOITINGA	Member of the Board	Sep 2018 – Jan 2020
Dr Global Head of Comparative Medicine, Roche, Basel, Switzerland	TOBIAS SCHNITZER	Member of the Board	Sep 2018 – Dec 2020
Emeritus professor Newcastle University, United Kingdom	PAUL FLECKNELL	Member of the Board	Sep 2018 – Dec 2020
Director of the 3Rs-Centre Utrecht Life Sciences, Utrecht University, the Netherlands	JAN VAN DER VALK	Member of the Board	Sep 2018 – Dec 2020

Members of the Management Team in 2020 (The Management Team was instated in the fourth quarter of 2020)

Affiliation	Name	Role	From - To
University of Bern	CHRISTIAN LEUMANN	Representative of the Strategic Board (vice President)	Nov. 2020 – Dec. 2020
University of Zurich	PAULIN JIRKOF	Representative of the Executive Board (Chair)	Nov. 2020 – Dec. 2020
Swiss 3RCC	JENNY SANDSTRÖM	Representative of the Directorate (Executive Director)	Nov. 2020 – Dec. 2020

Members of the Directorate Team in the period 2017–2020

Role	Name	From - To
Executive Director	CHANTRA ESKEs	Mar. 2018 – Nov. 2019
Executive Director	ROLF HANIMANN	Dec. 2019 – Oct. 2020
Executive Director	JENNY SANDSTRÖM	Oct. 2020 – Dec. 2020
Scientific Officer	ARMAND MENSEN	Aug. 2018 – Dec. 2020
Scientific Officer	ISABELLE DESBAILLETS	Sep. 2018 – Dec. 2020
Scientific Officer	PHILIPPE BEAUCHAMP	Feb. 2020 – June 2020
Communications Officer	CHANTAL BRITT	Sep. 2018 – Dec. 2020
Administration Officer	BRIGITTE REICH	Feb. 2020 – Oct. 2020

CONTACT

Swiss 3R Competence Centre (3RCC)
Directorate 3RCC c/o University of Bern
Hochschulstrasse 6
CH-3012 Bern

 +41 31 684 56 23

 secretariat@swiss3rcc.org

 @Swiss3RCC

Newsletter

Sign up for the Swiss 3RCC newsletter to not miss information on the research funding, symposia and other 3Rs related activities.

