SwissCollNet – Call for proposals

Call 2022 – Description

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1 Aim and scope

The SwissCollNet initiative aims at making data on specimens from the Swiss natural history collections available for research, education and society. SwissCollNet will mobilise and provide open-access to specimen data through nationwide data harmonisation and interoperability among all relevant stakeholders and data providers, such as natural history museums, botanical gardens and institutions of higher education. The foremost and overall goal of this four-year period is to identify, priories and digitise as many collections as possible and to build an online portal, the Swiss Virtual Natural History Collection (hereafter SVNHC), which will provide open-access to harmonised specimen data from the Swiss collections.

On the basis of the federal decree on credits for research funding institutions for the years 2021–2024 (article 2 paragraph 1 letter d), SCNAT is tasked with conducting this initiative with a financial support of MCHF 12.37. The available funds will be invested to modernise and digitise the collections, to ensure data interoperability, to develop the SVNHC, to coordinate with the relevant international initiatives and to ensure the sustainable operation of the SVNHC.

All Swiss public and non-profit natural history collection-holding institutions are invited to participate by submitting project proposals and thus sustain the initiative with their professional experience and expert knowledge.

The calls for proposals follow three strategic endeavours, namely:

– conditioning of collections, following defined standards, to prepare the specimens for digitisation,
– digitizing (databasing and/or imaging) specimens for their future integration in the SVNHC,
– promoting training for collection management and taxonomic expertise.

2 Key information

2.1 Available funding and number of applicants per project

For this second call for project proposals, a total amount of CHF 3'550'000.- is available.

The maximum sum that can be applied for a project is of CHF 150'000.– for the main applicant and an additional maximal sum of CHF 150'000.– for each co-applicant.

The minimum sum that can be applied for a project is CHF 25'000.–.

Funding by SwissCollNet requires an overall matching contribution for each financed project (in cash and/or in kind) by the applicants at least equivalent to the sum received. There are no restrictions in handling the distribution of in cash and/or in kind contributions between applicants of the same project.

The number of main-applicants per project is limited to a single person, the number of co-applicants is not limited.

2.2 Project duration

Projects are envisaged to last up to a maximum of 18 months.

2.3 Deadlines

The submission period opens on May 1st 2022.

The submission deadline is July 29th 2022 (16h00 CET).

2.4 Contribution release

The funded projects can start after the communication of the grant approval, at the earliest on November 1st 2022. All funded projects have to be started on March 1st 2023 at the latest.

2.5 Subsequent call

No subsequent call will be published.

3 Background information

With more than 60 million specimens of animals, plants, fungi, rocks, soil samples and fossils, Switzerland's museums, universities, and botanical gardens store remarkably extensive collections: taken together, the Swiss collections form an entity whose scientific value is comparable to that of the most prestigious foreign institutions. The objects document the diversity and changes in nature and the subsurface over millions of years, nationally and internationally. Museum collections and herbaria are becoming increasingly important for basic and applied research around the world. They contain essential information for research on pressing social issues such as health (disease-carrying organisms), agriculture and forestry (beneficial insects, pests, pesticides), climate, biodiversity (insect mortality), subsurface use and several more. However, only 17 percent of this international scientific and patrimonial treasure is digitised. This means that a large part of this unique data on biodiversity and the environment is not digitally accessible for research and education.

To make use of the scientific and societal potential of the extraordinary number of specimens in Swiss natural history collections, the Swiss Academy of Sciences (hereafter SCNAT) together with musnatcoll (Verband der naturwissenschaftlichen Museen und Sammlungen der Schweiz und Liechtenstein), the Swiss Systematics Society, GBIF.ch and Info Species proposed a research initiative to increase the access to natural history collections in Switzerland for research, innovation and education. Together with representatives of collection-holding institutions, challenges and measures were defined to increase digital and physical accessibility of natural history specimens distributed in numerous collections in Switzerland. In a preparatory phase, collection management practices as well as expertise in digitising specimen data and images were exchanged and standards and best practices were summarised in the "Handbook on natural history collection management – a collaborative Swiss perspective" (Frick and Greeff, 2021).

After a preparatory phase of two years (2018-2020), the construction phase of the SwissCollNet initiative will run from 2021-2024 under the overall responsibility of the SCNAT. For this, a total amount of 12.37 MCHF of federal funds has been allocated to SwissCollNet. This sum shall be met by an equivalent amount of matching funds.

The main objective of this four-year period is to set the foundations for the SVNHC by agreeing on shared standards in collection management, databasing and digitisation, and by developing the necessary infrastructures for by a centralised access to specimen data stored in the Swiss institutions.

In particular, the funds shall be invested to:

– Promote modern standards in management and curation of collections.
– Upgrade the quality of collections towards defined standards for the integration of specimen data in an open-access system.

- Provide open access to the bio- and geodiversity data in the Swiss institutions (for researchers and the public).
- Promote and support the scientific potential of collections for research.
- Promote training in collection management and expertise in taxonomy.
- Promote collaboration and networking among collection-holding institutions.
- Integrate Swiss natural history collections into international initiatives.

4   Legal bases

The present document, "SwissCollNet call for proposals", is published in accordance with the "Funding Regulations" of SwissCollNet and with the "Mandate" between the State Secretariat for Education, Research and Innovation (hereafter SERI) and the SCNAT.

This document describes the specific requirements for the award of grants, the application and evaluation procedures as well as the rights and obligations of the grantees. Unless defined in this document, the provisions of the "Funding Regulations" apply.

5   Provisions specific to the funding scheme

5.1 Basic requirements

Applications must be aligned with the overall goals of SwissCollNet and must clearly indicate how the technical and practical questions will be addressed and implemented.

These main conditions apply for all projects to be funded by the SwissCollNet initiative:

1. All projects have to demonstrate a clear and practical step forward towards nationwide interoperability of specimen data. In that respect, specimen conditioning/determination should be coupled with data mobilisation.
2. All data generated within these projects should be FAIR data, i.e. **F**indable, **A**ccessible, **I**nteroperable and **R**eusable (FAIR-principle) for anyone without restrictions while in full compliance with Access and Benefit Sharing (ABS) regulations, following CARE-principles (**C**ollective Benefit, **A**uthority to Control, **R**esponsibility, **E**thics) for preserving indigenous-related data and if not protected by ethical clauses, by nature conservation regulations or international multilateral environmental agreements.
3. The matching funds principle applies for all financial contributions, i.e. the participating institutions must provide their own contributions (in cash and/or in kind) to at least match the funds provided by SwissCollNet. There are no restrictions in handling the distribution of in cash and/or in kind contributions between applicants of the same project.

5.2 Project contents

Projects should focus on important natural history collections and include one or several of SwissCollNet strategic fields (see definitions below). Natural history collections cover mineral and sediment samples, rocks and meteorites, specimens of extant and extinct animals, plants, fungi and microorganisms, including paleontological, archeozoological, archaeobotanical and anthropological collections.

In this definition, biomedical and veterinary-oriented collections are excluded.

Projects focusing on images may only be considered, if closely related to the specimen and with no possibility to work on the specimen itself.

Archives (text and images) with no link to natural history specimens are not the focus of this call, a partial contribution may exceptionally be made, if archive information is strictly related to specimens subject of the project.

Projects should be ambitious and aim at increasing the accessibility of the collections that are relevant for the fulfilment of the SVNHC. In that respect, specimen conditioning/determination should be coupled with data mobilisation.

Projects may be performed by a network, a group or a single institution. In any case, the results should be transferable to other SwissCollNet partner institutions, through the SVNHC or as best practices development.

Collaborative projects that benefit from an enhanced network between institutions and promote knowledge transfer are highly recommended.

5.2.1 Important collections
Projects are encouraged to focus on important collections. Important collections should satisfy one or several of the following criteria:

Higher priority:
– Collections that include type specimens or that are of high taxonomic relevance;
– Collections of high patrimonial or historical or national value;
– Collections of high value for the knowledge of Swiss or international biodiversity and geodiversity, both past and present;
– Collections facilitating research projects.

Lower priority:
– Collections at risk or currently completely inaccessible (e.g. due to poor conditioning);
– Collections that include specimens referred to in scientific or historic articles;

5.2.2 Strategic fields
The three main strategic fields that have been defined are:

A. Conditioning, determination, re-determination, revision and databasing. This field focuses on the management of collections with the aim of conditioning and integrating un-accessioned specimens into the collections. Projects may put emphasis on the integration of specimens into collections (i.e. conditioning), the determining or re-determining of specimens and/or the taxonomic revision of selected taxonomic groups (in particular for national collections). In accordance with local workflows, projects will have to use the protocols and standards for data generation and data capture that have been agreed within the initiative as this will facilitate the effective sharing and consolidation of data across institutions (i.e. as described in: 2021, Frick and Greeff "Handbook on natural history collection management – a collaborative Swiss perspective"). Projects mainly focusing on this strategic field have to prepare the generated data for an upload to the SVNHC and use the standards and identifiers defined by SwissCollNet. Within this item it is also possible to revise existing databases for enabling aggregation of existing data into the SVNHC.

B. Digitisation, best practices and quality standard implementation. This field focuses on making specimen data digitally available and interconnected, thus improving access to data for research purposes as well as for the general public. Creating this rich data source is a precondition to make specimen data available and usable for research and society via online portals. A major task is to ensure that specimens are databased (i.e. digital capture of the information from specimen labels and on the specimens themselves) and that images of the specimens, where appropriate, are obtained. These can be produced via photographs, scans or 3D imaging of the objects that are digitally linked to the original specimen information. Furthermore, existing data

may be transferred into collection management systems and/or translated into the standard vocabularies, making these data available and compatible internationally. Projects mainly focusing on this strategic field have to prepare the generated data for an upload to the SVNHC and use the standards and identifiers defined by SwissCollNet.

C. Training of taxonomic experts, collection managers and staff. This field aims at providing training opportunities for establishing the expertise needed for implementing quality standards for collection management, internal revisions and for expanding collections as well as the exchange of highly specialised taxonomic expertise. Collection managers and collection staff ensure the long-term preservation of collections and are responsible for collection care, inventory and database management, often also including digitisation. For determination or re-determination of specimens and taxonomic revisions of selected taxa, sound expertise in taxonomy and systematics is essential. Experts should be trained within specific projects at Swiss collection-holding institutions as well as in the framework of exchange programs with leading international museums and botanical gardens.

5.3 Duration of funding

Contributions will be funded for a duration of a maximum of 18 months.

6 Application requirements

6.1 Requirements for applicants

SwissCollNet recognises two categories of applicants, main and co-applicants, described below.

6.1.1 Main applicant
A person employed in a public and/or non-profit natural history collection-holding institutions located in Switzerland can act as main applicant to submit a project proposal. The number of main-applicants per project is limited to a single person.

The person acting as main applicant is employed as PI / group leader / curator (or equivalent position with a collection responsibility) for the entire duration of the project.

6.1.2 Co-applicant
A person employed in a public and/or non-profit natural history collection-holding institutions located in Switzerland can act as a co-applicant. The number of co-applicants for a project is not limited.

Main- and co-applicants have to be employed in different institutions. Two persons employed in the same institution cannot figure together as applicants (main- or co-) in the same project.

6.2 Number of applications

A person can only apply for one project per call as main applicant.

Several applications per person per call are possible as co-applicant.

6.3 Requirements for applications

a) Applications must be submitted in compliance with the funding regulations of SwissCollNet and must contain all required documents and information.
b) Applications require the designation of a main applicant responsible for corresponding with SwissCollNet and for setting up and managing the collaboration (with co-applicants) for his or her proposal.
c) Applications must consist in a project plan that describes precisely the objectives, outlines the envisaged technical and scientific questions, provides an implementation plan and a timeline of the milestones to be achieved and details on how the project outcomes will be sustained after the termination of the SwissCollNet funding. Applications must provide information on how the quality and interoperability of the data will be guaranteed and how long-term access to the data, infrastructure and/or technology generated during the project will be maintained. In particular, applications must specify how and by whom data are prepared for an upload to the SVNHC.
d) Applications must provide a detailed annual and overall budget, describing the expected costs and financial resources. They must include a letter describing and confirming the financial contributions (in cash and/or in kind) brought in by the applicants' institutions (see the eligible and ineligible matching funds listed in 7.3 and 7.4).
e) Applications must provide information on how the requested funding will be distributed between the applicants in the case of collaborative projects. The institutions receiving funding for relevant project activities should be listed as co-applicants (see 6.1).
f) Applications must mention two potential reviewers with expertise in the field of the proposal content and not working in Switzerland.
g) Applications must be submitted in electronic form using the SwissCollNet application and budget templates through swisscollnet.scnat.ch/application before the application deadline.
h) Applications (including all Annexes) must be written in English.
i) The main and co-applicants must submit a collection survey (inventory) for their institutions to the Swiss Node of GBIF ahead of submitting a project proposal, if such survey has not been set yet in 2021 or 2022 (for information see https://swisscollnet.scnat.ch/en/implementation/collection_survey). The provided information will be entered into the GBIF Registry of Scientific Collections by GBIF.ch and the information will be summarised in a common dataset by SwissCollNet.
j) All formal requirements laid out in the Funding Regulations apply.

6.4 Contractors, private sector

Funds may be used for mandating the private sector for specific items which cannot be fulfilled by the public sector.

7 Eligible costs and matching funds

Applicants must include a detailed budget outlining the requested funding to implement their project. The costs must be detailed by activities, quantified and their financial coverage described in the application.

SwissCollNet may authorise transfers between cost categories during the grant period.

Eligible and ineligible costs for a support by SwissCollNet as well as eligible and ineligible matching contributions are listed below.

No VAT shall be paid for SwissCollNet-funded projects.

7.1 Eligible costs for a support by SwissCollNet

The following costs are eligible for a support by SwissCollNet:

– Salaries of technical and scientific staff, who will be engaged to coordinate and implement the project including preparation and transfer of data.
– Consumables for the project implementation (DNA-barcoding costs will be considered only, if species determination depends on DNA-analyses)
– Usage of technical services and infrastructures in the institution
– Digitisation devices with a clear usage for the project; priority will be given to equipment that can be shared
– Travelling, collaboration and networking activities related to the project
– Capacity building and knowledge /technology transfer within the scope of SwissCollNet
– Computing time, cloud computing and data procurement (strictly limited to project)
– Contracts and/or mandates with the private sector for specific missions that cannot be fulfilled by the applicants

7.2 Ineligible costs for a support by SwissCollNet

The following costs will not be covered by SwissCollNet:

– Creation, expansion and maintenance of collection infrastructures (shelves, drawers, compactus, etc.)
– Operation of basic equipment
– IT hardware (computers and data storage), software and licenses, usage fees linked to the usage of IT resources.
– Research costs
– Purchasing a collection from a private collector

7.3 Eligible matching funds

Matching funds represent the contribution to the budget from the institution(s) receiving the grant. These resources may be covered in cash or in kind (use of scientific equipment or staff for the project implementation). There is no guidance regarding the relative proportions of in cash and in-kind in the matching funds provided by the institution(s). However, some contribution in cash is highly recommended.

The matching contributions provided by the applicant(s) must pertain to all aspects within the scope and goals of the submitted project. They must support the aim of SwissCollNet and the funding principle specified in this document.

In cash

– Funds invested and made available by the institution(s) to support the project (internal budget, third-party contributions, …)

In kind

– Salaries of the technical and scientific staff implementing the project and not funded by SwissCollNet: effective costs including 20% social charges and 15% overheads. The sum cannot exceed the limits detailed in Appendix I.
– Usage of infrastructures for the project implementation: pro ratio of the infrastructure investment costs; usage has to be justified by providing usage time (hours/days).
– Consumables used for the project implementation, excluding investments of durable infrastructure such as shelves, drawers and furniture.

The in-kind contributions have to be well documented and realistically valued.

7.4 Ineligible matching funds

The following costs are not eligible as matching funds:

– Daily management and curation of natural history collections
– Usage and/or acquisition of durable infrastructure such as shelves, drawers and furniture
– Research costs
– All salaries and costs benefitting from a funding from SwissCollNet

8   Evaluation

8.1 Evaluation procedure

8.1.1   Proposal pre-screening
The selection of the proposals will be preceded by a formal check by the Scientific Unit of SCNAT. Proposals that fail to comply with formal requirements will not be admitted to the next stage of the selection procedure and will be rejected if the defect cannot be easily corrected.

8.1.2   Evaluation by external experts
Applications that meet the formal requirements and are within the scope of SwissCollNet will be evaluated by external experts (i.e. experts with a professional activity outside of Switzerland and who do not belong to one of the boards of SwissCollNet). The Steering Board of SwissCollNet determines two external experts. In addition, an external expert proposed by the applicants will be contacted to provide a third external evaluation. Applicants should thus suggest and provide contact information of two external experts while submitting their application. As only one evaluation of the proposed experts will be considered, applicants may indicate in which order the proposed experts should be contacted (1st priority, 2nd priority).

8.1.3   Allocation of funds
The Steering Board will decide on the allocation of funds, taking into account the evaluation by the external experts.

The Executive Board of SCNAT will ratify the decisions of the Steering Board.

8.2 Evaluation criteria

The quality of the submitted proposals will be evaluated by external experts based on the following criteria:

– Contribution to the implementation of a nationwide harmonisation and accessibility of specimen data from natural history collections
– Importance of the targeted collection(s) (neglected nature of the target biota or collections, significance for research …)
– Quality of data (usage of minimal international standards for data classification: Darwin Core, ABCD-EFG, see TDWG, CETAF, Frick and Greeff 2021; interoperability of data and images; availability for the SVNHC)
– Scientific quality (added value of the project as a whole, link with research, new data on neglected taxa, best practice – applicability to other institutions and/or collections …)
– Network development and knowledge transfer (Potential for future collaboration, collaboration

with added values to the project, applicability to other institutions, share of equipment, …)
– Human resources (qualifications of the persons involved, training opportunities, …)
– Feasibility and efficiency (calendar, associated resources, number of treated specimens per amount of funding …)
– Financial quality (costs, available matching funds, federal grant applications, third party funding …)

The evaluation will be made in due consideration of the significance of the proposal for SwissCollNet.

8.3 Conflict of interest policy

If a member of a SwissCollNet body (Steering Board, Board of Experts) submits an application, she/he shall be denied access to the evaluation documents and shall be obliged to withdraw from any discussions or decision-making concerning his/her application. In addition, a member of the SwissCollNet bodies must withdraw if she/he has a potential conflict of interests with respect to an application under evaluation by the relevant evaluation body.

Members of the SwissCollNet bodies must declare any reasons for withdrawal without being prompted such as:

– To be co-applicants for the project being proposed or are referred to as a partner in a cooperation project,
– To have a close family or personal relationship with the applicant (relatives, marriage, partnership, close friendship),
– To be professionally dependent on or compete with the applicant, or have done so until recently or will do so in the foreseeable future,
– To fulfil other criteria that put their impartiality in doubt.

All decisions with respect to proposal evaluation and funding are documented in writing, conflict of interests and absence from the discussion will be documented in the meeting minutes.

8.4 Right of appeal

The main applicant may appeal against rulings issued by SCNAT at the Swiss Federal Administrative Court (according to the Federal Act on the Promotion of Research and Innovation (RIPA) article 13).

9 Grant and grant management

9.1 Legal consequence of the award

On the full or partial approval of the grant application (award), the applicants become grantees of SwissCollNet. Grantees are obliged:

– To use the grant in accordance with the conditions set out in the funding decision (ruling)
– To comply with the provisions stipulated in these regulations and all other rules applicable to the grant

The grantees must provide a written summary of the planned project that is understandable to non-experts (lay summary). They must also provide thematic keywords. The lay summary and keywords must be submitted upon receipt of the funding decision, but no later than upon submission of the release of funds request.

9.2 Grant payments

Funds are transferred in annual instalments. The first payment is made upon request by the grantee responsible for correspondence.

Subsequent instalments are subject to approval of the annual project reports (activity & financial reports; attainment of agreed milestones) by the Steering Board.

9.3 Cost-neutral extensions

At the grantee's request, SwissCollNet may exceptionally extend the grant by a maximum of 6 month (not exceeding December 31st, 2024) without provision of additional funding. The extension must be requested 3 months before expiry of the grant period and requires a written justification.

9.4 Reporting

The achievements of the milestones defined in the project will be evaluated by the Steering Board on a yearly basis. The next portion of the overall approved funding will be released only if the planned milestones have been reached to a sufficient degree - i.e. continuous funding through the whole funding period depends on milestones achievement.

Grantees must submit an annual activity report to the Scientific Unit no later than 6 weeks after the end of the calendar year. The following information must be included in the project activity report:

– Summary
– Main achievements and results, attainment of agreed milestones
– Next steps

Annual financial reports are also to be submitted and must disclose the following:

– Use of SwissCollNet funds
– Own contributions "in cash" and "in kind" by the involved partners

Financial reports are compiled by the grant administration office (or equivalent administrative body) of the host institution. They must be reviewed, signed and sent to the Scientific Unit in a timely manner.
Financial reports must be submitted no later than 6 weeks after the end of the calendar year.

A final report (containing activity and financial reporting) is due no later than 2 months after termination of the project and on January 31st 2025 at the latest.

An updated survey of the collections that were subject of the project has to be included in the final report.

Unused grants must be refunded to the SwissCollNet at the end of the project duration and at the latest by December 31st, 2024 and may not be put to any other use.

9.5 Discontinuation of funding

If the prerequisites for the award are no longer met after approval of the award or if the circumstances on which the approval was based have changed considerably (e.g. milestones are not reached), SwissCollNet may amend or revoke the approved award and:

– if the grant has not yet been transferred, it may amend or withhold it;
– if the grant has already been transferred, it may demand partial or full repayment of the grant.

Prior to taking such measures, SwissCollNet will hear the parties concerned and communicate the amendment or revocation in the form of a ruling.

10 References

ABCD-EFG: https://github.com/tdwg/efg

CARE-principles: https://www.gida-global.org/care

CETAF: https://www.cetaf.org

Collection survey : https://swisscollnet.scnat.ch/en/implementation/collection_survey

Darwin Core: https://dwc.tdwg.org

FAIR-principles: https://www.go-fair.org/fair-principles

Frick H, Greeff M (2021) Handbook on natural history collections management – A collaborative Swiss perspective. Swiss Academies Communications 16 (2)

GBIF Registry of Scientific Collections: https://www.gbif.org/fr/grscicoll

GeoCASe: https://geocase.eu

11 Appendices

Appendix I. Maximum salaries eligible as matching funds

The salaries of the staff employed or hired in the institution(s) can be eligible as matching funds (in kind) for the part of their activities that will be spent on implementing the project supported by SwissCollNet.

In the budget submitted in the project proposal, the effective costs of the salaries have to be indicated including social charges (20%) and overheads (15% of salary costs including social charges).

These salary costs cannot exceed the maximal amounts indicated in the following table.

Table 1: maximum eligible salary rates for personnel (cost covered by SwissCollNet or in kind contribution)

Function	Max costs applicable* [kCHF/y]
Leading position (professor, director, head, …)	270
Senior collaborator with leading function (assistant professor, curator, collection manager, …)	200
Scientific collaborator (researcher fellow, postdoc, curator, collection manager, …)	170
Junior collaborator (research fellow, assistant collection manager, assistant curator, …)	150
Senior technician (IT, taxidermist, collection technician, …)	130
Junior technician (IT, taxidermist, collection technician, …)	100
Doctoral student	60
Internship/temporary staff (IT, collection, civil service …)	Effective costs only

* = effective salary + 20% social charges + 15% overhead services, infrastructures. To be calculated pro rata.