SWISS BIOBANKING PLATFORM

The leading national research infrastructure for biobanking activities.





Enabling excellent research through quality and scalability, a commitment of Swiss Biobanking Platform

Excellence in biobanking is of paramount importance for guality life sciences research. It starts with ensuring that biological material is dealt with according to the best practices. It continues with annotating biosamples with complete and interoperable metadata in order to facilitate their findability, sharing and reuse, which is particularly important as precision medicine develops and requires national- and even international-scale collaborations. It also involves working and networking in good intelligence with the diverse stakeholders of the life sciences research ecosystem in order to build tomorrow's coherent, synergistic, and reliable large-scale infrastructures.

All this requires vision, innovation, collective intelligence, and a constant focus on users' needs. This is what SBP is all about. This is what SBP is achieving, step by step since seven years.

I want to take this opportunity to congratulate and thank the SBP team and governing board for their excellent work so elegantly reflected in this document, the Swiss National Science Foundation for its renewed confidence and financial support, and all the users of the SBP services for their commitment and contribution to the excellence of life sciences and clinical research.



Prof. Antoine Geissbühler SBP President

The secret of making progress is to get started. - Mark Twain

That's how Swiss Biobanking Platform (SBP) initiated by Swiss National Science Foundation (SNSF) in 2015, developed, over the years, innovative services in a collaborative approach. With the support of field experts, SBP aims at individualizing the needs of biobanks to assist them in their daily practice.

In accordance with SNSF's vision, SBP has been supporting and centralizing information on human biobanks collaborating actively with the five University hospitals. On top of the proposed tools. SBP is diversifying its activities to grow and adapt its service portfolio to the non-human biobanks with a focus on veterinary and microbiology.

SBP has produced successful results working closely with the European network BBMRI, as well as with the other national research infrastructures for data (SPHN) and clinical research (SCTO).

The future presents SBP with a challenge to be recognized as a key partner by the research community, as it is not directly involved in projects, but rather provides services to support research.

On the following pages, I invite you to a dive into SBP's world. Values, governance, strategy, services and tools: everything is proudly described for you to discover the importance that SBP gives to your business.



Christine Currat. PhD SBP Executive Director

The Swiss node in the BBMRI-ERIC organization

BBMRI-ERIC is one of the largest European research infrastructures for biobanking. All its Member and Observer States have a National Node, i.e., a contact point coordinating the biobanking activities in their respective European countries.

As the Swiss Node of BBMRI-ERIC, SBP is a key intermediate between Swiss biobanks and the European network.

SBP is very active in the Quality Working Group of BBMRI as well as in the development of the Federated Search Platform at the European level.

In April 2022, the Federal Council proposed that Switzerland becomes member of six European research infrastructures including BBMRI-ERIC, thereby consolidating its position and providing access to Swiss biobanks and researchers to international projects.

BBMRI-ERIC Member BBMRI-ERIC Observer

BBMRI-ERIC

Swiss Biobanking Platform is the national coordination platform for biobanks

Swiss Biobanking Platform is an independent association initiated by the Swiss National Science Foundation (SNSF) in 2016.

It has been created in response to the increasing needs of researchers in biomedical and biological sciences in terms of quality, access, transparency, and interconnectedness of biobanks for research purposes.

Thus, SBP aims at developing specific and professional expertise in the biobanking domain through a range of innovative supports and tools helping SBP partners adhering to standards and best practices and positioning itself as a reliable service provider for biobanks.

Swiss National Science Foundation The agreement for the period 2021-2024 between the SNSF and SBP states the following goals:

- Promote quality strategy for biobanks that serves both overall quality management and sample quality.
- **2.** Facilitate access to biobanked samples by establishing a Swiss biospecimen catalogue at the sample level.
- **3.** Provide an IT system for the daily management of biobanks to support quality and networked biobanks.
- **4.** Foster collaborations with the European networks of biobanks.
- **5.** Provide a concept for its sustainable funding.



Number of biobanks and infrastructures in the SBP network on December 2022

Swiss Biobanking Platform is proud of its values

SBP's vision is to foster research by facilitating access and optimal usage of high-quality, harmonized samples and sample-related data, while its mission is to create a network of biobanks promoting FAIR (findable, accessible, interoperable and reusable) sample data.

The values that guide SBP are aligned with its objectives.



Independence

Innovation

SBP promotes the scientific progress by supporting the proper

for research purposes.

management of biological resources

SBP's independence is an asset to foster collaboration between partners for a common good perspective/aim by treating them in an equitable way.

Common good

SBP promotes optimization of biological resource management by sharing samples and their associated data in a collaborative approach.

SBP positioning in the Swiss research landscape

SBP has been identified as an important national research partner alongside the Swiss Clinical Trial Organisation (SCTO), Schweizerische Arbeitsgemeinschaft für Klinische Krebsforschung (SAKK) and Swiss Personalized Health Network (SPHN), to create synergies and economies of scale for the publicly funded clinical researchers.

Like the other national research infrastructures, SBP participates in and follows the vision of the National Coordination Platform for Clinical Research (CPCR) which was created and is managed by the Swiss Academy of Medical Science (SAMS). The creation of the CPCR was initiated by the State Secretariat for Education, Research and Innovation (SERI), with the objective to analyse and improve the position of clinical research in Switzerland, as outlined in the Clinical Research White paper published in 2021 by SAMS.

The main tasks of the relevant national research infrastructures are to strengthen the interaction between stakeholders in publicly funded clinical research at the national level to exploit synergies, reduce duplication and improve coordination and use of resources. They should also facilitate the implementation of the measures described in the White Paper, in particular the assignment of tasks and responsibilities among the stakeholders.

HUMAN FIELD

NON-HUMAN FIELD



Equity SBP respects the plurality of biobank partners and the diversity of their scientific, medical, or technical specificities.

Expertise

SBP is committed to developing the strategic areas of support needed for its partners to maintain a level of excellence.

ЦC

Reliability

SBP offers a strong expertise in the field as a service provider to anticipate and address the customer's needs.



The Governance of Swiss Biobanking Platform

SBP acts as an independant association. Its governance consists of ordinary and expert members from non-profit and publicly funded institutions active in the biobanking field.

The ordinary members constitute the SBP General Assembly. Together with the expert members, they form the SBP Governing Board. The expert members are highly recognized individuals in three specific biobanking domains (liquid, tissue and non-human biobanking).

GENERAL ASSEMBLY

ORDINARY MEMBERS

CHUV Centre hospitalier universitaire vaudois

HUG Hôpitaux universitaires de Genève

- Inselspital Universitätsspital Bern
- **USB** Universitätsspital Basel
- USZ Universitätsspital Zürich

GOVERNING BOARD



PRESIDENT



Prof. Antoine Geissbühler Vice-rector, UNIGE Director of eHealth and telemedicine, HUG

ORDINARY MEMBERS



Basel Prof. Christian Müller Head of Clinical Research and Stationary Cardiology, USB

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Bern Prof. Thomas Geiser Director of Education and Research, Insel Group Bern

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Zürich Prof. Gabriela Senti Director of Research and Education, USZ

VICE-PRESIDENT



Prof. Carlo Largiadèr Head of Liquid Biobank Bern, Inselspital, Bern University Hospital

EXPERT MEMBERS

Liguid



Prof. Carlo Largiadèr SBP Vice-President Head of Liquid Biobank Bern, Inselspital, Bern University Hospital



Tissue

Prof. Aurel Perren Director of the Institute of Pathology, University Hospital Bern



Non-human – Veterinary Prof. Tosso Leeb Director of the Institute of Genetics Vetsuisse Faculty, University of Bern



Microbiology Prof. Adrian Egli Director of the Institute of Medical



Natural history museum Prof. Nadir Alvarez Head of Natural Sciences Museum of Lausanne

Microbiology, University of Zurich

Executive Office

With the introduction of EDUCATION as a new pillar and to respond to the growing need for adapted services, SBP's executive office has diversified its members. The support services in interoperability and quality domains have thus been reinforced.

STRATEGY AND COMMUNICATION





Chief Scientific Officer



Christine Currat. PhD Executive Director

Sabine Bavamian. PhD Claudia Lagier Marketing Officer

INTEROPERABILITY AND VISIBILITY





Louise Rov UX Designer



EDUCATION



Sustainability Officer

Lou Ferraton Education and

QUALITY

Camille Doras, Joséphine Uldry Quality Officer DVM. PhD **Biobank Officer**



Flavien Delhaes Biobank Officer



4 pillars for I strategy

QUALITY

The collected, processed and stored biological samples are important research tools used to perform efficient and high-quality investigations. Sample quality is a wide concept, which should be understood as a whole to establish standard control criteria and foster good biobanking practices.

VISIBILITY

Sample access, sharing and interconnectedness are foundational capabilities for the development of biomedical research. Helping biobanks tackle related challenges is key to reduce the underusage of biobanked samples.

INTEROPERABILITY

Sample related data needs to be documented in a standardized way to become comparable and searchable. Biobanks are under ever growing pressure to improve documentation of samples and processes.

EDUCATION

To harmonize biobanking practice and establish a reliable network of Swiss biobanks providing high-quality samples, SBP promotes Education. Acquisition of fundamental knowledge will allow us to build common understanding and bridges between Swiss biobanks, researchers, national research infrastructures, ethic committees and society.



EDUCATION is the cornerstone of biobanking.

SBP aims to valorize the Swiss expertise and its own vision through the development of a CAS in biobanking in collaboration with the University of Geneva and the financial support from the Loterie Romande.



What is the purpose of a biobanking training course?

The development of a recognized and up-todate training course in biobanking responds to the great need for personnel and experts to be educated in this field, as well as to the lack of harmonized knowledge around the biobanking activities and issues.

To meet the needs of different target audiences interested in biobanking, SBP intends to develop, in collaboration with different partners (Geneva University, HSeT Foundation, Lausanne University, EPFL, Pasteur Institute), an online training course divided into 3 modules. These modules can be followed independently or in succession, in which case the training would lead to a CAS type certification awarded by the University of Geneva.



MODULE 1 2 ECTS

Introduction to biobanking Definitions, importance, basic concepts of their operation

Actors or institutions having interest in research (e.g., PhDs, physicians, clinical investigators, ethics committees, patient organizations)

Acquisition of fundamental knowledge لانت انت

MODULE 2

5 ECTS

biobanking processes



Professionals having a role in sample management (e.g., biobank staff, laboratory managers)



MODULE 3

of a biobank

5 ECTS Professional manag

ູ່ຕີມີ

Biobank managers, quality control officers, unit managers clinical/research

Development of useful skills for practice









CONFORMITY

SBP offers to biobanks a compliance review leading to three labels, each demonstrating the proper application of best practices in various aspects of biobanking.

SBP

5

2

SQAN

SBP

Labels

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In terms of quality, SBP offers different services to support biobanks in the development of stateof-the-art practices.

In addition to standardized support documents delivered through SBP Docs, a compliance review leading to three labels is proposed to biobanks to ensure good biobanking practices. This conformity level for requirements related to Governance aspects is a mandatory step to enter the Swiss and European network of biobanks.

With the web-based compliance tool SBP SQAN, SBP evaluates the practices of biobanks to help them progressively reach a higher level of quality. Once registered, the biobank is supported and guided by our experts to become compliant with SBP minimal requirements. These developments are based on the requirements of professional standards, such as ISO 20387.

FUTURE DEVELOPMENTS

- A cost calculator for harmonization of biobank infrastructures' services
- A set of mandatory requirements for sample transfer that are harmonized across all Swiss University Hospitals.

What are the SBP Labels?

Labels are awarded after assessment of biobank practices to confirm its compliance with three different minimal requirements:



Compliance with legal and ethical standards

The VITA Label guarantees a proper Governance of the biobank in line with the applicable regulatory framework.

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BOVERNANCE PROCESS

Standardization of the operational processes of a biobank

The NORMA Label guarantees the quality of the operational processes and the harmonization of practices at the Swiss level.

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Optimization of the Quality Management System

The OPTIMA Label acknowledges the biobank has established a QMS with proper documentation management and implementation of Quality Indicators to monitor and optimize its operational processes.

SBP labelled biobanks map

The obtention of the VITA Label is a mandatory step to enter the Swiss and European network of biobanks. To date, 72 biobanks and infrastructures are registered in the SBP Network.

DOCUMENTS

Support documentation for biobanks and researchers

SBP provides guidance with a large set of documents, policies, procedures, templates and datasets, covering the key documentational aspects of biobanking activities. This guidance should be considered as the national standards supporting harmonization and interoperability.

By supporting biobanks through the necessary documentation to build up and maintain state-of-the-art biobanking practices, SBP helps researchers access optimal biological resources for their projects.

All the provided documents have been approved by Swiss field experts before their publication.







GENERAL

Quality Manual ^{NEW} Biobank regulation Glossary — English BIMS Guidelines

ETHIC & LEGAL

Ethical, legal and professional compliance list for human research biobanks applicable in Switzerland

SHARING MTA 3.0 NEW

Human: CORE Dataset for Liquid NEW CORE Dataset for Tissue NEW Non-Human: CORE Dataset for Bacteria NEW

SOPS, FORMS AND TEMPLATES

Participant Identification log Obtaining consent SOP Safety and Complaint SOP Responsibilities SOP Data Protection SOP Data and sample traceability SOP — Participant iD log Equipment Management SOP

- Equipment calibration records
- Equipment maintenance records
- Expiring Consumables
- Equipment Inventory



Personnel management SOP – Personnel File **Biological Material Management SOP** - Sample tracking form - Sample Acceptance Criteria - Shipping Log Validation of methods SOP - Validation method record - Method List Quality control strategy implementation SOP – Quality Control results Non-conformity management SOP - Non-Conformity Report - Non-Conformity Log Improvement Management SOP - Management Review Report – Quality Policy **Documentation management SOP** - Standard document - Standard SOP - List of essential documents Internal audit SOP Risk Management SOP NEW Service Level Agreement Template NEW

FUTURE DEVELOPMENTS

- SOP on Data Quality Management
- Core Datasets for Liquid and Tissue Veterinary samples

HARMONIZATION SBP promotes the exchange and use of biological samples.

Once sample-related data are comparable and searchable, researchers can assess sample suitability for their project.

Datasets

The publication in 2018/2019 of five SBP datasets (tissue, liquid – human / veterinary and bacteria samples) was an important first step in providing biobanks with guidance on sample related documentation and towards interoperability.

A new version of the SBP Datasets is underway. Core Datasets have been reviewed and approved by biobanking experts to assist biobanks in their implementation and to facilitate their integration into the future SBP Biobank Information Management System.

During the next review cycle, the non-retained variables will be discussed to define the Extended Datasets.

> Data**sets**

SBP

BIMS

SBP is creating a new Biobank Information Management System (BIMS) that will offer a common basis for harmonization and sharing of information across all Swiss Biobanks, in complement of the already available BIMS in the University Hospitals and on the market.

Thanks to its large network, SBP is in the unique situation of understanding specific needs of small biobanks, working on excel sheets and not having the opportunity to switch to a professional BIMS.

The three main advantages of the SBP conceptualized BIMS:

- Considerably affordable system in terms of cost and operation for better compliance with traceability and security requirements.
- Local support system for the establishment and monitoring of biobanks for rapid and available technical integration.
- Highly collaborative and harmonized system for better sample sharing.

To be developped

BIOBANK

SPECIFIC

DATASET

biobank fi<u>eld</u>

result analysis.

Set of data specific to the

Biobank specific

e.g., rare disease, sequencing,

by the biobank



CORE DATASET

Minimal set of data that need to be recorded in a biobank during its daily practice Human Liquid \longrightarrow 20 fields Human Tissue \longrightarrow 21 fields Bacteria — 14 fields Veterinary Liquid $\rightarrow x$ fields Veterinary Tissue $\rightarrow x$ fields

Characterization

2023

EXTENDED DATASET Set of data that are relevant to

Quality



Biobank specific dataset

Biobank specific dataset

Biobank specific dataset Biobank specific dataset



SHARING SBP tackles one of the biggest challenges that biobanks face: the under-used and sharing of biobanked samples.

To respond to the increasing demand for visibility, access, and interconnectedness, SBP has developed a Swiss E-Catalogue that offers the possibility for researchers to easily connect with biobanks and search for samples of interest based on a personalized set of search criteria.

A concept for an e-catalogue at the sample level, called the SBP NExT (SBP Network Exploration Tool), has been developed to maximize visibility through a network, where connections between biobanks and researchers are enabled not only on a national level but throughout Europe via the BBMRI Directory.

SBP NExT combines the features of a directory (search at the biobank level) with the ones of a catalogue (search at the sample level) to foster research and collaboration.



For biobankers SBP NExT is a monitoring platform to upload samples, choose the visibility extent of data among the research community, and obtain access policies.

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