ETH BOARD

Strategic Focus Area

Personalized Health and Related Technologies

Ruedi Aebersold, Chair Executive Committee

Daniel Vonder Mühll, Executive Director

Aim of the presentation: Provide information about PHRT

- What is PHRT?
- What are the goals of PHRT and how is it organized
- What project categories exist, order of calls
- What are the intersections between PHRT and SPHN
- Who can apply and what are the funding rules?

The ETH Board approved three Special Focal Areas for 2017-2020

- **Personalized Health and Related Technologies (PHRT)** (www.sfa-phrt.ch)
- Swiss Data Science Center (SDSC)
- Advanced Manufacturing

Personalized Health and Related Technologies: key points

- Program Period: 2017-2020, lead ETH Zurich
- Budget: CHF 50 Mio
- Executive Committee (EC) is responsible for the program and reports to the Strategic Committee (SC) and the ETH Board
- Funds awarded based on peer review;
  no institutional quotas
- Slim administrative structure

PHRT: Frame and Objectives

The Strategic Focus Area Personalized Health and Related Technology (PHRT) as defined in the **Strategic Planning 2017-2020** by the **ETH Board** will focus on core contributions of the ETH Domain institutions that are **complementary to the efforts** undertaken by other initiatives, such as the Swiss Personalized Health Network (SPHN)

An important goal of the PHRT is to allow **ETH Domain** institutions to be in a position to **collaborate** most fruitfully with **partners from SPHN** and with **international programs**.

What are the goals of PHRT and how is it organized

"The overarching **goal** of the strategic focus area *Personalized Health and Related Technology (PHRT)* is to establish and sustain the ETH Domain in a worldwide leading position in the ongoing life science revolution that will ultimately transform medicine as it is today into 'individualized medicine'. **In essence a person's unique biological makeup will guide decisions on how to maintain and restore health**".

How is PHRT organized

Executive Committee (EC):

- Ruedi Aebersold (chair; ETHZ)
- Bart Deplancke (EPFL)
- Alex Dommann (EMPA)
- Gunnar Rätsch (ETHZ | SPHN)
- Didier Trono (EPFL | SDSC | SPHN)
- Olivier Verscheure (Director SFA SDSC)
- Daniel Vonder Mühll (ETHZ)
- Damien Weber (PSI)

Strategic Committee (SC):

- Detlef Günther (chair; ETHZ)
- Andreas Mortensen(EPFL)
- Joël Mesot (PSI)
- Gian-Luca Bona (Empa)

Administration (Office):

- Daniel Vonder Mühll
  (Executive Director SFA PHRT)

Review Board

- Uwe Sauer (Chairman)
- 8-10 experts (ETH Domain, external, abroad)

What project categories exist, order of calls

1st Call ✓

Education / Fellowships
~ 5 million

- Interdisciplinary doctoral student and postdoctoral fellowships

top down
Call □

Technology Platforms
~ 10 million

- Genomics platform, western Switzerland
- Mass spectrometry platform, eastern Switzerland
- 10'000 samples per year capacity

1st Call ✓
2nd Call □

Technology Translation Projects - ~ 17 million

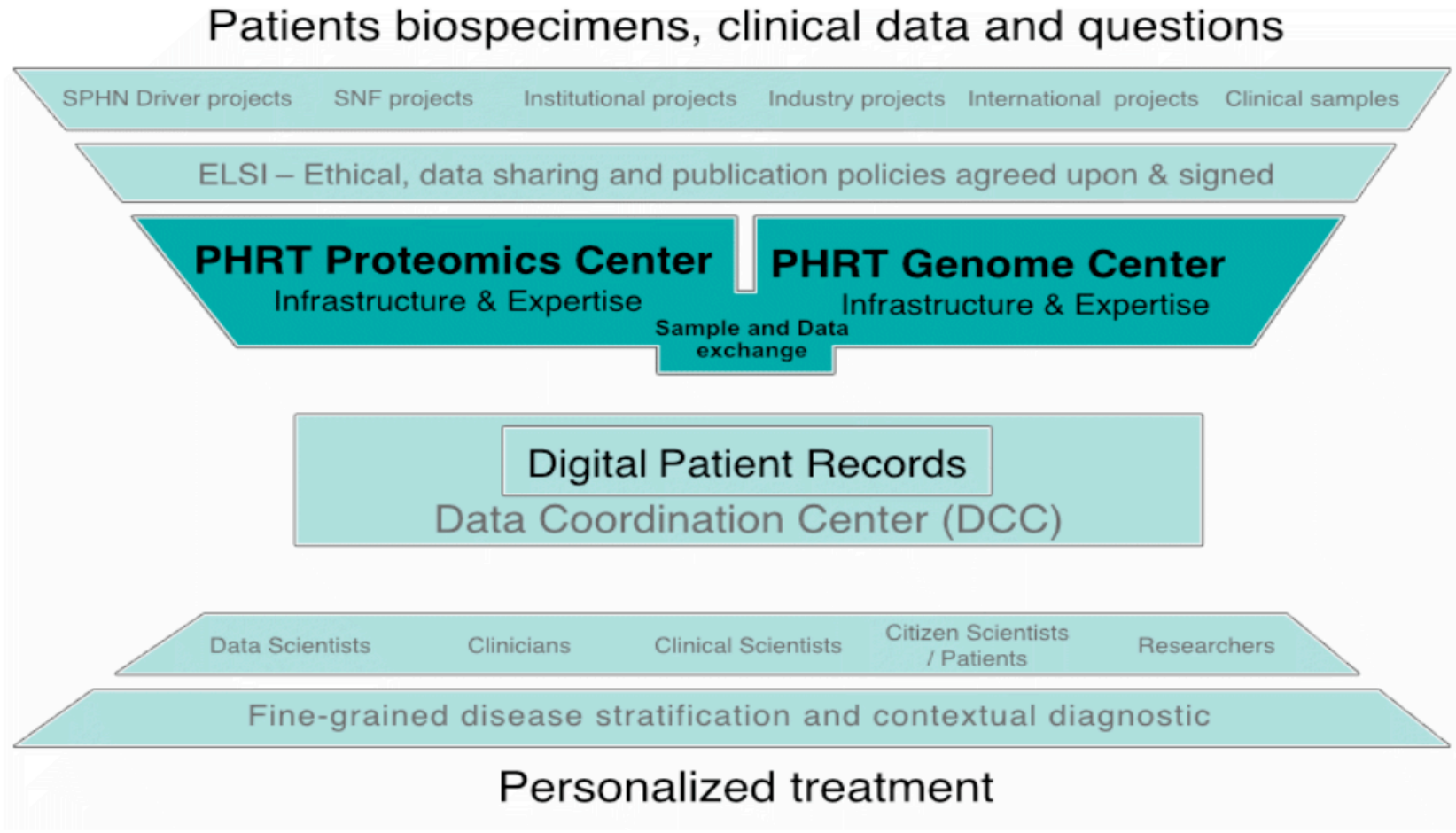
- Translate pioneering technologies to "clinical level" of performance

1st Call ✓
2nd Call □

PM/H Research Projects
~ 16 million

- Research projects with high direct clinical relevance

ETH PHRT platform project synopsis



ETH PHRT Mass Spectrometric Platform

The ETH PHRT Mass Spectrometric Platform provides team, technologies, facilities and logistics to convert large sample cohorts of clinical specimens into digital representations of their molecular makeups (proteotypes) suitable, along with their clinical/phenotypic metadata, for further *in silico* research. The platform provides assistance at all stages of the project:

- Collaborative experimental design, grant and manuscript preparation
- Sample preparation for clinical proteotype analysis (cells, biofluids and tissues)
- Data-Independent Acquisition (DIA) workflow enabling the comprehensive and quantitative analysis of the proteotype of clinical specimens across cohorts.
- Fast track data analysis
- Sharing of the data with the DCC for deep track analysis and community sharing.

ETH PHRT Mass Spectrometric Platform

The PHRT Mass Spectrometric Platform processes **the following clinical sample types:**

Tissue biopsies	**Cells**	**Biofluids**
1mm x 10mm (frozen/FFPE)	> 1Million cells	50µl plasma

The PHRT Mass Spectrometric Platform operates on a full cost model for research & industry. Pricing includes standard sample preparation, spike-in standards, acquisition and fast track analysis

Sample number	**Academic pricing (CHF/sample)***	**Industry pricing (CHF/sample)***
1-20	1000	3000
20-100	800	2400
100	600	1800

*Biospecimen requiring non-standard sample preparation will require a separate quote.

For further information please contact the scientific lead of the ETH PHRT Mass Spectrometric Platform: Prof. Bernd Wollscheid (wbernd@ethz.ch).

Genome Center @ Campus Biotech

Genome Sequencing and Analysis platform

The Genome Center aims to provide for the large-scale sequencing needs of Switzerland, thereby facilitating genomic research and the implementation of genomic-based medicine.

Missions:

- To develop and deploy genomic technologies in support of research and clinical activities at the national and international levels
- To develop analytical tools and pipelines for genome analysis
- To serve as big data hub for the growing genomic needs of hospitals and research institutions
- To foster strong partnerships with existing genomic platforms in Switzerland to ensure mutual exchange of know-how, experience and technology development
- To support public education in genomics and familiarize clinicians with genomic data

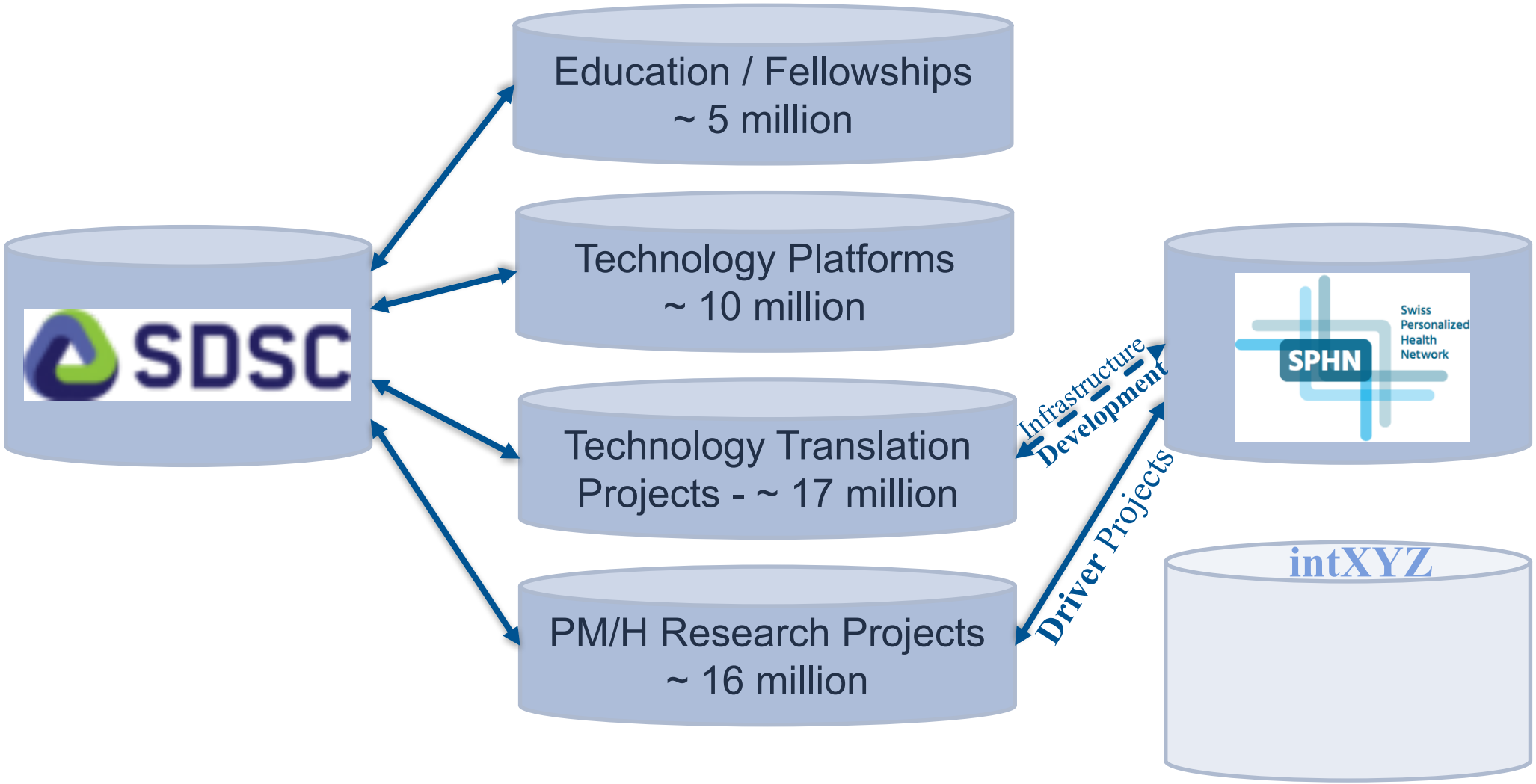
Genome Sequencing and Analysis platform

The genomics platform of the Genome Center offers the following human sequencing services:

	Input material *		Output	Price / sample
RNA-seq (using TruSeq Stranded mRNA-seq library reagents)	25ul	100ng (minimum) 250ng (preferred)	50nt single read sequencing @ 25M PF reads	**125 CHF**
			50nt paired end sequencing @ 25M PF reads	**175 CHF**
Exome Sequencing (using TruSeq Exome library reagents)	25ul	150ng (determined by Qubit or PicoGreen)	70-fold mean coverage	**245 CHF**
			200-fold mean coverage	**580 CHF**
Genome sequencing	25ul	300ng (determined by Qubit or PicoGreen)	30-fold mean coverage	**1200 CHF**

Custom specifications in terms of depth, read number and read size can be discussed and adjusted prices will be provided upon request. For further information please contact Keith Harshman, Chief Operating Officer of the Genome Center (keith.harshman@unil.ch).

PHRT Interactions



ETH zürich

https://www.sfa-phrt.ch/call-documents

Suchen

Overview

PDF

PM/PH Research (including Driver)

PDF

Education
(IPhD & TPdF)

PDF

Technology Translation
Projects

PDF

Call for Proposals

Documents for the first call for proposals

Please find below the relevant documents describing the project types, requirements etc.
The templates for submission of a proposal will be available here at the end of June.

Who can apply and what are the funding rules?

All scientists of the ETH Domain, i.e. faculty members and senior researchers employed at Empa, EPFL, ETHZ, PSI, Eawag or WSL, are eligible for PHRT funding. He/she will act as principal investigator (PI) and coordinate the consortium (if there is one).

Collaboration with "non-ETH Domain" research groups from universities and university hospitals is highly recommended and desired. However, the ETH Board has ruled that PHRT funds can only be received from researchers of the ETH Domain. Therefore, as a rule, with these proposals a full cost budget must be submitted indicating which parts (research groups and activities) are planned to be funded from various funding sources (PHRT - ETH Domain, SPHN - universities, university hospitals, own contributions, SNSF etc.). In particular cases, access to omics or clinical data can be organized as a service via the cost category "consumables" in the PHRT budget when data ownership goes to the ETH Domain partner. Proposals that bridge PHRT and SPHN ("Driver projects"), forming consortia with scientists, engineers and clinicians are particularly welcome. See the SPHN website for more information.

Thank you for your attention

We are happy to answer questions