Sharing experiences in applying for Research Grants – Interactive discussion

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PMU, February 1, 2018
Personal history of funds obtained: 15M

- 2017: 50'000
- 2016: 200'000
- 2015: 240'000
- 2014: 370'000
- 2015: 200'000
- 2014: 200'000
- 2015: 200'000
- 2013: 841'525
- 2013: 1800000
- 2012: 3'000'000
- 2011: 3'700'000
- 2010: 841'525
- 2009: 200'000
- 2009: 200'000
- 2009: 240'000
- 2008: 200'000
- 2008: 200'000
- 2007: 50'000
- 2006: 0
- 2005: 500000
- 2004: 1000000
- 2003: 1500000
- 2002: 2000000
- 2001: 2500000
- 2000: 3000000
- 1999: 3500000
- 1998: 4000000
The majority of submitted projects are rejected.
A few logical rules

1. To be financed, a project needs to be submitted.
2. The majority of submitted projects are rejected.
3. Rejection does not mean that the project is not good.
4. A project can always be improved.
Rejected projects can be recycled
The most difficult fundings to obtain are the first ones, when the CV is «light»
Do not under estimate the administrative part!

European Commission - Research - Participants
Proposal Submission Forms

Proposal ID 633666-2
Acronym LIFEPATH

PIC 999600909
Legal name HOSPICES CANTONAUX CHUV

Short name: CHUV

Address of the organisation

Street Rue du Bugnon 21
Town LAUSANNE
Postcode 1005
Country Switzerland
Webpage www.chuv.ch

Legal Status of your organisation

Research and Innovation legal statuses

Public body ........................................... yes
Non-profit ........................................... yes
International organisation ........................... no
International organisation of European interest ...... no
Secondary or Higher education establishment ...... no
Research organisation ................................. no
Small and Medium-sized Enterprises (SMEs) ....... no

Legal person ................................. yes
Tips!

• Many rejections occur because the project does not match the call.
  ➞ read the conditions several times.
  ➞ call the administrative person in charge.

• Some reviewers will not spend many hours reading your project.
  ➞ spend time on the summary and on the structure

• Many reviewers will not be experts in the field
  ➞ ask a colleague to read the project
Both content and format are important
2. To develop epidemiology tools better able to capture the dietary patterns and nutritional status of the Swiss population.

Given the recognized need for novel and more efficient population epidemiology tools to capture dietary patterns and the nutrition status of people, we plan to conduct new analyses on existing population-based data (Menu-CH1, SKIPOGH) and biobank (SKIPOGH) and to generate new population-based data (SKSC controls) taking advantage of the existing infrastructure, human resources and expertise.

2.1. To examine the nutrient density of the Swiss diet, overall and by regions [MB, OB, CW].

Nutrient profiling, which aims at categorizing foods according to their nutritional quality\(^{83,84}\) has been advocated as a useful tool to guide public health strategies and policies\(^{83}\). Diets rich in nutrients and low in energy could prevent non-communicable diseases\(^{85}\). The Nutrient Rich Food index score 9.3 (NRF9.3) was inversely associated with all-cause mortality in the Rotterdam study\(^{86}\). In this project, we will generate the nutrient density of consumed foods (Menu-CH1 data) in Switzerland using nutrient profiling scores. We will describe the nutrient density of Swiss diet overall and by regions using standard statistical techniques. Data source: Menu-CH1.

2.2. To explore the contribution of fermented foods to the Swiss diet and to assess their associations with the available health outcomes, focusing on fermented dairy [GV, MB, CW, OB].

Microbes and products of microbial fermentation in foods are integral parts of the diet of hominids since at least the Early Mesolithic 9'200 years \(^{87}\). The role of food fermentation in human societies has radically changed from the primitive foraging community to the modern one.\(^{88}\)
Task 2.1: Ethics approval for all data sets
Even though ethics approval was obtained for all data sets it will be assured that potential changes in the study goals can be followed by the amendments of the ethics protocols. This task will also assure new ethics requests of other data need to be acquired.

Task 2.2: Ethical monitoring for big medical data
Task 2.2 will work with other stakeholders in Switzerland and internationally on ethical aspects linked to medical big data. It is an important topic to protect personal data. On the other hand it can also be unethical to not use data that can help many people.

Task 2.3: Security guidelines for EaaS
This task will work on security constraints of new data analysis models such as EaaS. This could be done in fully sandboxed environments, as it is important to not import security problems to the hospital network when moving algorithms to a secure data storing environment.

Task 2.4: Anonymization of data and constraints
The data from the cohort studies is already anonymized but this task will further analyse the risks of the data to allow for re-identification and implement tools also for potentially additional data that are to be acquired.
Milestones (M, month):

M04: Formal approvals for use of the data for the two case studies are available for the three datasets
M12: Metadata and data are harmonized across datasets
M12: First infrastructure prototype ready and usable for data access
M18: Interviews with small enterprises in the medical field regarding take up of data access technology etc.
M24: First organization of scientific challenges on the give infrastructure
M24: User tests of the visualization tools in view of commercialization, tests to show costs reductions in hospitals
M36: Second prototype of the integrated data access, machine learning and visualization tool ready
M36: Clear idea on the value of anonymized medical research data, value of annotations and also value reduction of medical data over time

Figure 5. Road map figure during and beyond the project.
Include figures and tables

- Figures and tables provide a lot of information in a short amount of time.
- Adequately label axes (big font!)
- Figure legends are very important and need to be self-explanatory.
### Table 1. Available data for which investigators directly contributed and resources and corresponding projects

<table>
<thead>
<tr>
<th>Data/resource</th>
<th>Funding</th>
<th>Responsible persons</th>
<th>Regional coverage</th>
<th>Contribution to projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKIPOGH1 &amp; 2 data and biobank</td>
<td>SNF-funded, H2020 (Lifephath)</td>
<td>MB</td>
<td>Cantons VD, GE, BE, adults 18-90 years</td>
<td>1.2; 1.3; 2.2</td>
</tr>
<tr>
<td>SKSC infrastructure, protocol, centralized laboratory</td>
<td>NCCR-Kidney.CH, Hospitals</td>
<td>OB, CW</td>
<td>All Swiss University Hospitals</td>
<td>1.2, 1.3; 2.2; 2.3</td>
</tr>
<tr>
<td>MenuCH1 food intake data</td>
<td>FSVO</td>
<td>MB, FSVO</td>
<td>Swiss 18-75 years</td>
<td>1.1; 2.1; 2.2</td>
</tr>
<tr>
<td>Nutrition intervention studies (FOODBALL, Nutrichip 2, F3, trans-fatty acid)</td>
<td>Agroscope SNF, JPI</td>
<td>GV</td>
<td>Relevant worldwide</td>
<td>2.2</td>
</tr>
<tr>
<td>Broad nutrient panel list and fully equipped laboratory</td>
<td>Molecular Nutrition group, NIHS</td>
<td>SR</td>
<td>Relevant worldwide</td>
<td>1.3; 2.2</td>
</tr>
<tr>
<td>LCA databases</td>
<td>ESU-services</td>
<td>NJ</td>
<td>Switzerland and imported food and feed products</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Life-course perspective and metabolic flexibility

DBP 15q24

rs1378942
combined P = 1 × 10^{-23}

-\log_{10}(P\text{ value})

-8
-6
-4
-2
0
2
4
6
8

72.4
72.6
72.8
73
73.2
(Mb)

Recombination rate (cM/Mb)

CCDC33 ➔
CLK3 ➔
LMAN1L ➔
C15orf17 ➔
C15orf39 ➔

CYP11A1 ←
SEMA7A ←

EDC3 ←
CPLX3 →
COX5A ←

CYP1A1 ←
ULK3 ←
RPP25 ←

UBL7 ←

CYP1A2 →
SCAMP2 ←
SCAMP5 →

ARID3B ➔
CSK ➔
MPI ➔
PPCDC ➔

rs1378942

\(r^2 > 0.8\)

\(r^2 > 0.5\)

\(r^2 > 0.2\)
10-year risk of myocardial infarction: usefulness of lifestyle at any genetic risk

Khera et al, NEJM 2016
Figure 1. Classification of TFBS Regions
TFBS regions for Sp1, cMyc, and p53 were classified based upon proximity to annotations (RefSeq, Sanger hand-curated annotations, GenBank full-length mRNAs, and Ensembl predicted genes). The proximity was calculated from the center of each TFBS region. TFBS regions were classified as follows: within 5 kb of the 5’ most exon of a gene, within 5 kb of the 3’ terminal exon, or within a gene, novel or outside of any annotation, and pseudogene/ambiguous (TFBS overlapping or flanking pseudogene annotations, limited to chromosome 22, or TFBS regions falling into more than one of the above categories).
<table>
<thead>
<tr>
<th>Method</th>
<th>$\hat{\beta}_W$</th>
<th>$\hat{\beta}_X$</th>
<th>$\hat{\beta}_W$</th>
<th>$\hat{\beta}_X$</th>
<th>$\hat{\beta}_W$</th>
<th>$\hat{\beta}_X$</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>0.01346</td>
<td>0.02229</td>
<td>0.04008</td>
<td>0.03685</td>
<td>0.955</td>
<td>0.950</td>
<td></td>
</tr>
<tr>
<td>Comp</td>
<td>0.03062</td>
<td>-0.003561</td>
<td>0.1149</td>
<td>0.067321</td>
<td>0.960</td>
<td>0.955</td>
<td></td>
</tr>
<tr>
<td>Impu</td>
<td>0.01431</td>
<td>0.021</td>
<td>0.04088</td>
<td>0.05169</td>
<td>0.980</td>
<td>0.975</td>
<td></td>
</tr>
</tbody>
</table>

(M.1) $P(R = 1) = 0.66$

(M.2) logit $P(R = 1) = 2Y$

(M.3) logit $P(R = 1) = 2X$

(M.4) logit $P(R = 1) = X + Y$

Bias = $(\hat{\beta} - \beta_0)/\beta_0$.

Simulation variance.

Confidence interval using jackknife standard error.
Funding sources


Swissuniversities

- https://www.swissuniversities.ch/fr/services/bourses-pour-les-etudes-a-letranger/plus-dinformations/fondationssubventions/
• Carrier (doc-mobility, post-doc, ambizione, prima)
• Projects
• Programmes: PNR, PRN, Sinergia, SCOPES, BRIDGE, COST, NCCR, longitudinal studies
BRIDGE

• BRIDGE is a joint programme conducted by the SNSF and the Commission for Technology and Innovation (CTI). It offers new funding opportunities at the intersection of basic research and science-based innovation, thereby supplementing the funding activities of the two organisations.

• **BRIDGE consists of two funding schemes:**
  - **Proof of Concept** is aimed at young researchers who wish to develop an application or service based on their research results. These projects may target all kinds of innovations from all research areas.
  - **Discovery** is aimed at experienced researchers who want to explore and implement the innovation potential of research results. Only technological innovations that have a societal and economic impact will be funded.
Horizon 2020

• Marie Skłodowska-Curie actions (MSCA) provide grants for all stages of researchers' careers - be they doctoral candidates or highly experienced researchers - and encourage transnational, intersectoral and interdisciplinary mobility.

• ERC starting grant
• ERC consolidator grant
• ERC advanced grant
• National MD-PhD-Programme
• Funders involved in the program
• Swiss Academy of Medical Sciences (SAMS)
  Swiss Cancer Research (KFS)
  Swiss National Science Foundation (SNSF)

• Lausanne:
• Prof. Ivan Stamenkovic, E-Mail: ivan.stamenkovic@chuv.ch, md-phd@unil.ch
• https://www.unil.ch/mdphd/en/home.html
Benefits of writing a grant

1. Knowledge improvement
2. New ideas
3. Networking
4. Setting-up collaborations