



## Funding by Lottery @SNF?

Prof. Matthias Egger

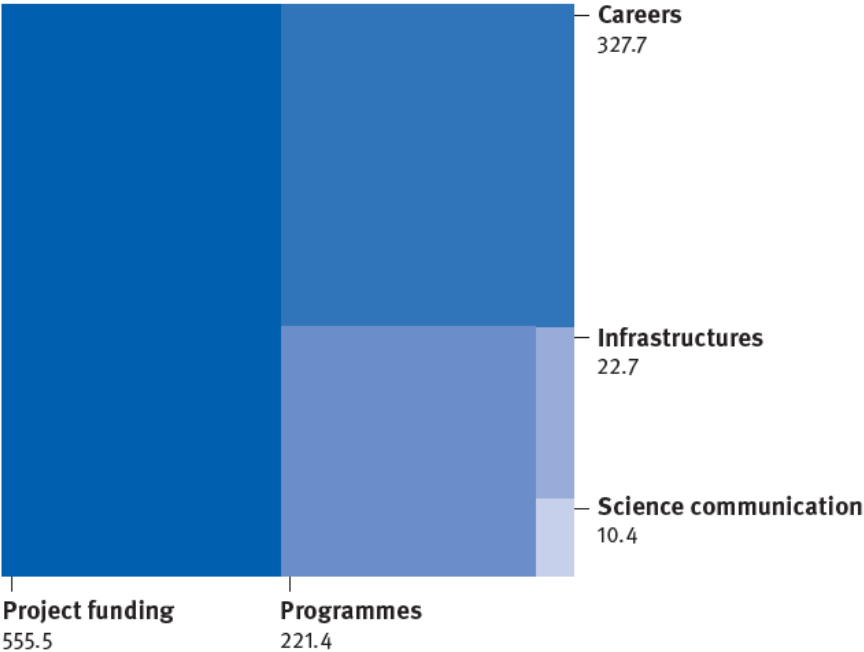
President of the Research Council



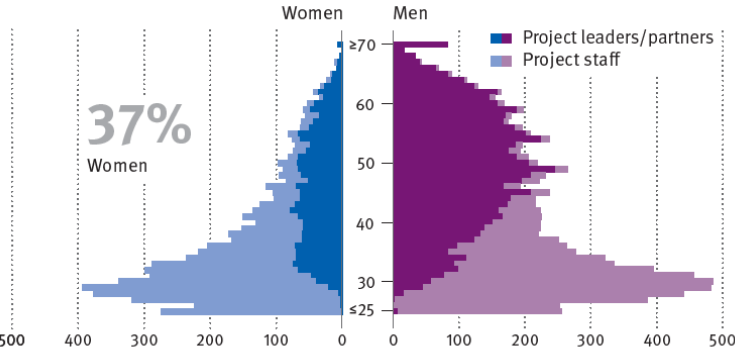
SWISS NATIONAL SCIENCE FOUNDATION

By funding category

in CHF million



Researchers in projects by age and gender



Approved funds

in CHF million

1,138

Approved applications

2,958

Submitted applications: 6,073

Detailed figures for 2018: [www.snsf.ch/statistics](http://www.snsf.ch/statistics)



83 panels

Researchers involved

16,300

As at: 31.12.2018  
Network activities: in projects that ended in 2018

37%  
Biology and medicine

37%  
Mathematics, natural  
and engineering sciences

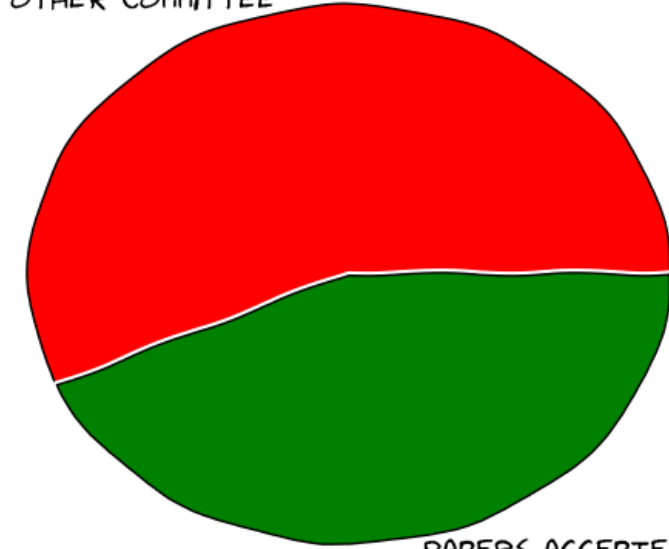
26%  
Humanities and  
social sciences

# The NIPS experiment



RESULTS IN 2ND COMMITTEE OF THE PAPERS  
ACCEPTED BY THE 1ST COMMITTEE

PAPERS REJECTED  
BY OTHER COMMITTEE



PAPERS ACCEPTED  
BY OTHER COMMITTEE

<https://blog.mrtz.org/2014/12/15/the-nips-experiment.html>

# Early success fuels further grants

*Researchers who just miss cut-off for postdoc grant fall behind those who narrowly qualify.*

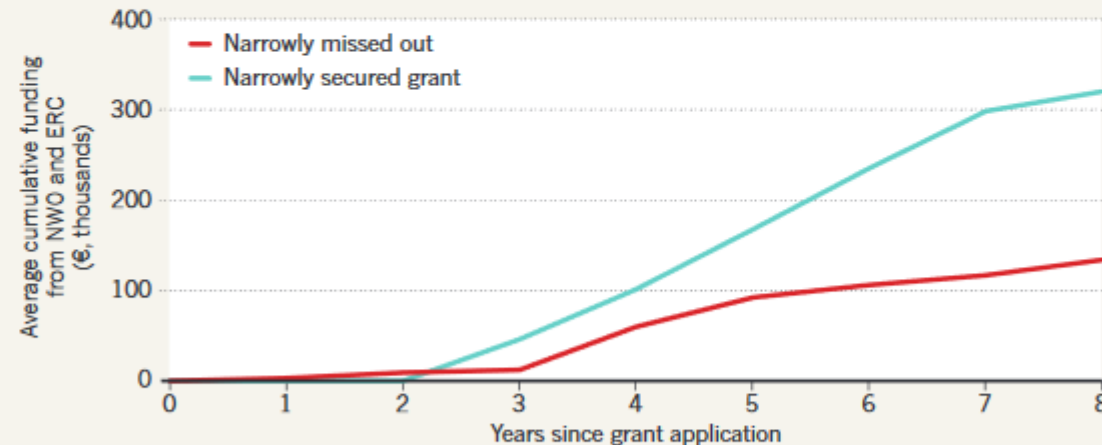
BY HOLLY ELSE

**T**he career-defining effect of winning a postdoctoral research grant has been laid bare in an analysis of thousands of young researchers' professional trajectories. The work compared the fate of junior scientists in the Netherlands who just met the bar to qualify for post-PhD research funding with that of people who just missed out on the money. The successful group went on to secure more than twice as much research funding in the subsequent eight years, the analysis found. And the grant-winners were also 50% more likely to become professors than were the ones who fell short. The study was published on 23 April (T. Bol *et al. Proc. Natl Acad. Sci. USA* <https://doi.org/cnrr>; 2018).

What is most striking is that winning the initial grant did not have any effect on the scientists' publications or academic impact

## THIN LINE

Researchers who just qualified to win a certain early-career grant went on to receive much more research funding in the years afterwards than did those who just missed out, an analysis finds.



NWO, Netherlands Organization of Scientific Research; ERC, European Research Council

T. BOL ET AL. *PROC. NATL. ACAD. SCI. USA*  
[HTTP://DOI.ORG/CNRR](https://doi.org/cnrr) (2018)

in the following years, says Shulamit Kahn, an economist at Boston University in Massachusetts. Funders often consider previous

awards when making decisions about whom to give money to. "Why are they doing this if it doesn't increase productivity?" asks Kahn,



## Research Funding: the Case for a Modified Lottery

Ferric C. Fang,<sup>a</sup> Editor in Chief, *Infection and Immunity*, Arturo Casadevall,<sup>b</sup> Founding Editor in Chief, *mBio*

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**ABSTRACT** The time-honored mechanism of allocating funds based on ranking of proposals by scientific peer review is no longer effective, because review panels cannot accurately stratify proposals to identify the most meritorious ones. Bias has a major influence on funding decisions, and the impact of reviewer bias is magnified by low funding paylines. Despite more than a decade of funding crisis, there has been no fundamental reform in the mechanism for funding research. This essay explores the idea of awarding research funds on the basis of a modified lottery in which peer review is used to identify the most meritorious proposals, from which funded applications are selected by lottery. We suggest that a modified lottery for research fund allocation would have many advantages over the current system, including reducing bias and improving grantee diversity with regard to seniority, race, and gender.

The lottery is in the business of selling people hope, and they do a great job of that. —John Oliver (1)

the overwhelming majority of the NIH budget, is allocated by a mechanism of prospective peer review in which scientists must

# horizons

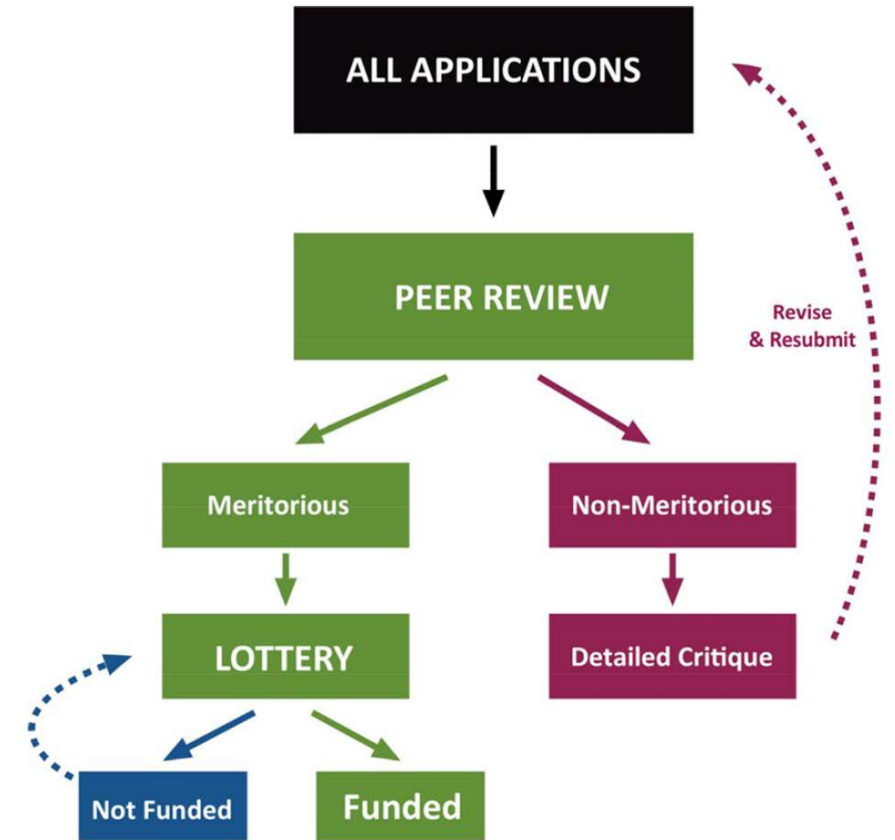
The Swiss Research Magazine

FEATURE ▾ SCIENCE POLICY RESEARCH INNOVATION PEOPLE

## Random selection for science funding: not such a crazy idea

A research funding lottery might make sense not just in the US – where success rates are extremely low – but perhaps also in Switzerland, says Matthias Egger.

Matthias Egger | 05/06/2018




**FIG 1** Proposed scheme for a modified funding lottery. In stage 1, applications are determined to be meritorious or nonmeritorious on the basis of conventional peer review. Nonmeritorious applications may be revised and resubmitted. In stage 2, meritorious applications are randomized by computer and funding is awarded to as many applications as funds permit on the basis of randomly generated priority scores.

# Potential advantages of a modified lottery approach

- Acknowledge the limitations of peer review
- Remove bias against risky research
- Reduce unconscious bias (e.g., against women applicants) that resides in panel
- Correct for the “Matthew effect” whereby recipients of one grant are more likely to get another.

“The system is already in essence a lottery without the benefit of being random”

- Increase efficiency



1	3.5	Female
2	3.45	Male
3	3.36	Male
4	3.24	Ethnic minority
5	3.13	Young researcher
6	3.05	Clinician
7	3.05	Male
8	2.92	Male
9	2.91	Female
10	2.91	Clinician
11	2.90	Young researcher
12	2.52	Male
13	2.40	Male
14	2.24	Male
15	2.10	Female
16	2.05	Clinician

# Postdoc.Mobility



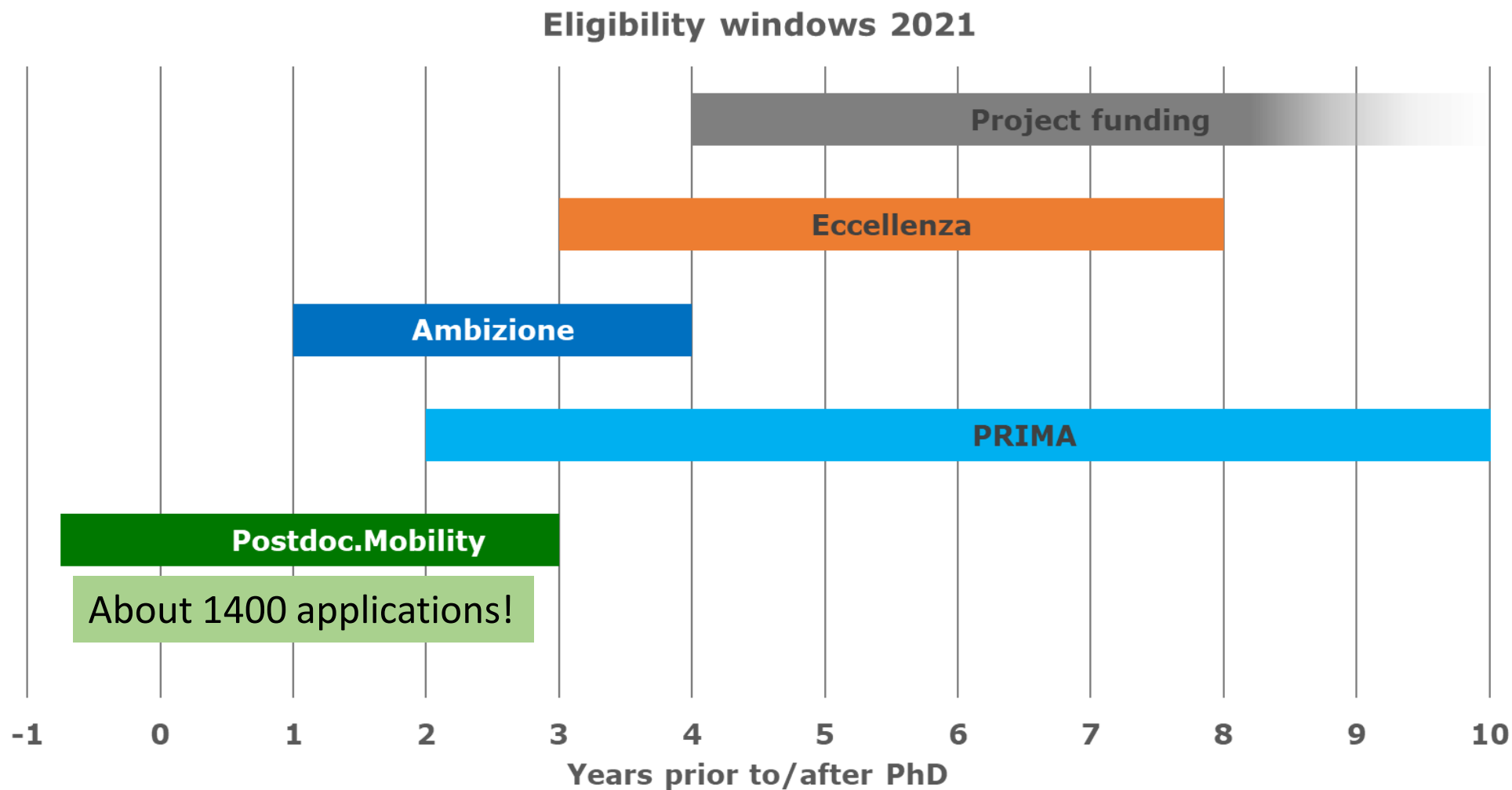
... evaluated by local committees

Increase your research experience by making a stay abroad!

Postdoc.Mobility fellowships are aimed at researchers who have done a doctorate and who wish to pursue an academic career in Switzerland. A research stay abroad enables such researchers to acquire more in-depth knowledge, increases their scientific independence and enhances their research profile.



# Career funding



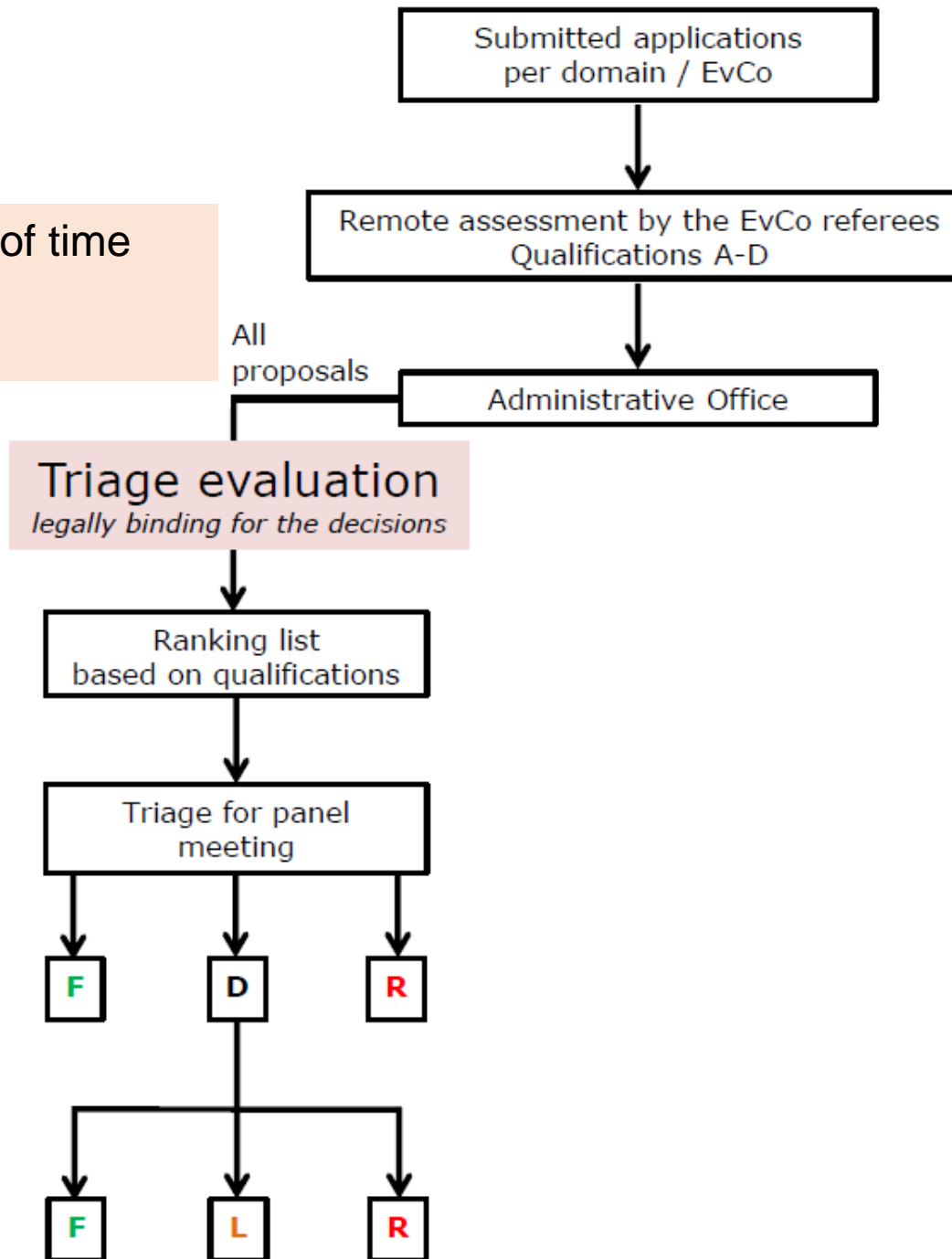
# Pilot study

- F** fund
- R** reject
- D** discuss in meeting
- L** Lottery

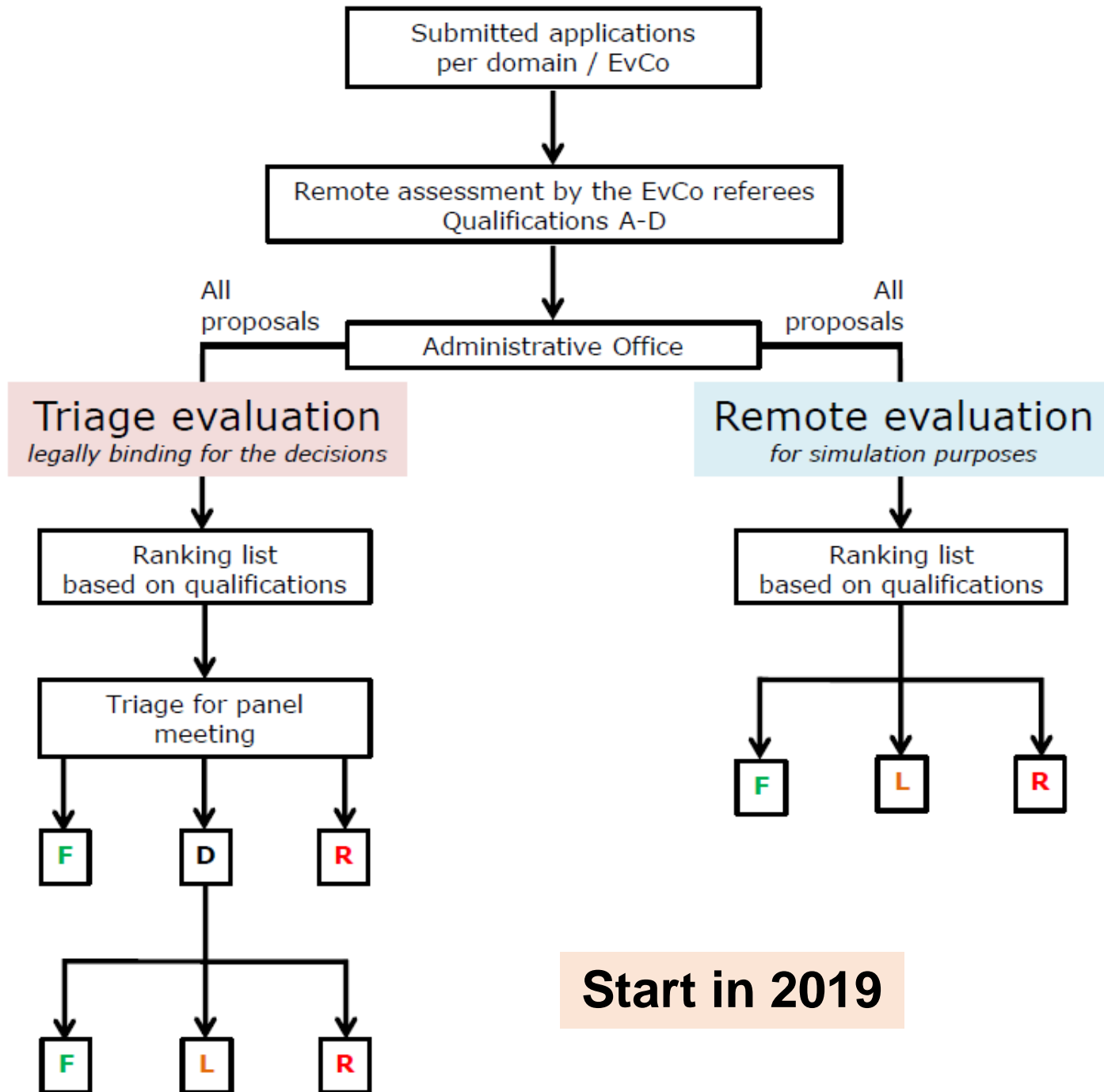
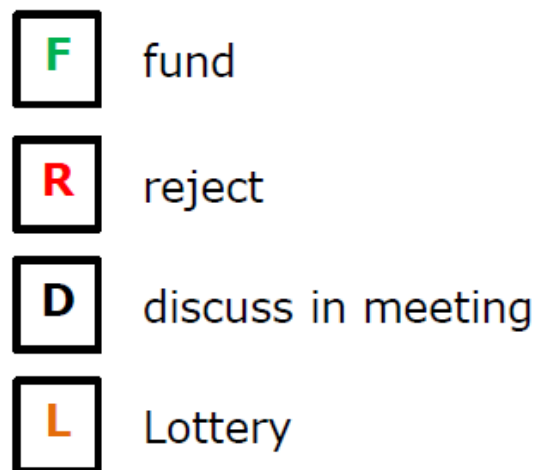
# Pilot study

**Costs.** Peer-review systems are costly in terms of time and effort – for funders, peerreviewers, and in particular for applicants.

- F** fund
- R** reject
- D** discuss in meeting
- L** Lottery



# Pilot study



**Start in 2019**



## Spark



### Rapid funding of unconventional ideas

The aim of Spark is to fund the rapid testing or development of new scientific approaches, methods, theories, standards, ideas for applications, etc. It is intended for projects that show unconventional thinking and introduce a unique approach. The focus is on promising ideas of high originality, relying on no or very little preliminary data. Taking risks is very welcome, but not a requirement in itself. The focus is on projects or ideas that are unlikely to be funded by other available funding schemes.

## Cohort study takes a closer look at research careers

07/Sep/2018



What paths do the careers of researchers take once they have requested SNSF funding? A longterm study seeks to shed light on this question.

The SNSF invests more than 200 million francs per year in the promotion of outstanding young researchers. SNSF funding allows them to independently pursue their research interests for several years.



Scientist taking a more creative approach to funding their research. Credit: Pixabay

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