Let us experiment with how to identify and support innovative research!

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Menu

- Private foundations contributions to research in Denmark
- Granting the most deserving innovative research applications
- Peering the peer review system
- Let us experiment!
Private and public foundations contributions to public research in DK

Source: The Danish Council for Research and Innovation Policy (DFIR) 2020
The Lundbeck Foundation

Lundbeck Foundation wishes to make Denmark one of the world’s leading neuroscience nations

To contribute to the creation of a strong pool of talented biomedical scientists at all career levels at Danish universities and university hospitals

Funding categories:

• PEOPLE
  Post Docs, Fellows, Ascending Investigators, Professors

• PROJECTS
  Collaborative Projects, Experiments

• PRIZES
  The Brain Prize, Young Investigator Prize, Talent Prizes
Granting the most deserving innovative research applications

There are today more deserving grant applications than there are available funds, so it is critical to ensure that the process responsible for awarding such funds reliably differentiates the very best innovative applications from the comparatively weaker ones.
# Peering into the peer review system

<table>
<thead>
<tr>
<th>Evaluation question</th>
<th>General critique</th>
<th>Particular criticism(s)</th>
<th>Is the criticism valid?</th>
<th>Strength of the evidence base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is peer review an effective system for awarding grants?</td>
<td>Peer review does not fund the best science</td>
<td>It is anti-innovation&lt;br&gt;It does not reward interdisciplinary work&lt;br&gt;It does not reward translational/applied research&lt;br&gt;It is only a weak predictor of future performance</td>
<td>Yes&lt;br&gt;Unclear&lt;br&gt;Unclear&lt;br&gt;Yes</td>
<td>Suggestive&lt;br&gt;Suggestive&lt;br&gt;Suggestive&lt;br&gt;Agreement</td>
</tr>
<tr>
<td>Peer review is unreliable</td>
<td></td>
<td>Ratings vary considerably between reviewers&lt;br&gt;It struggles to achieve an acceptable level of consistency</td>
<td>Yes</td>
<td>Agreement&lt;br&gt;Conflicting</td>
</tr>
<tr>
<td>Peer review is unfair</td>
<td></td>
<td>It is gender-biased&lt;br&gt;It is age-biased&lt;br&gt;It is biased by cognitive particularism&lt;br&gt;It is open to cronynism</td>
<td>Unclear&lt;br&gt;Unclear&lt;br&gt;Unclear&lt;br&gt;Yes</td>
<td>Conflicting&lt;br&gt;Conflicting&lt;br&gt;Conflicting&lt;br&gt;Agreement</td>
</tr>
<tr>
<td>Peer review is not accountable</td>
<td></td>
<td>Review anonymity reduces transparency</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Peer review is not timely</td>
<td></td>
<td>It slows down the grant award process detrimentally</td>
<td>Unclear</td>
<td>Suggestive</td>
</tr>
<tr>
<td>Peer review does not have the confidence of key stakeholders</td>
<td></td>
<td>It is not the preferred method of resource allocation</td>
<td>No</td>
<td>Agreement</td>
</tr>
<tr>
<td>What is the burden of peer review on the research system?</td>
<td></td>
<td>Burden of peer review is increasing&lt;br&gt;Peer review is an overly burdensome way of distributing research funding</td>
<td>Yes</td>
<td>Agreement&lt;br&gt;Agreement</td>
</tr>
</tbody>
</table>

Guthrie et al., 2018/19

[https://spars.aibs.org/bibliography.html](https://spars.aibs.org/bibliography.html)
The peer review system – how well does it work?

The funded projects with the poorest priority scores from reviewers garnered just as many citations and publications as those with the best scores.

7 FEBRUARY 2014 VOL 343 SCIENCE
Peer review is a recognized meritocratic mechanism.

However, at low success rates peer review may evoke scientific conservatism and risk minimization, which in turn result in low priority being given to genuinely innovative projects.

At Lundbeck Foundation we have decided to use 10% of our grant budget to systematically explore alternatives to the classical peer review system on how to identify the most deserving innovative grants.
Let’s experiment with new selection systems

The Experiment Call

Evaluation Criteria:

1. Ideas with the potential to respond to a long-standing scientific issue, to offer transformative understanding of a key topic, to nurture a fruitful new research field, creative method/technology or the like
2. Ideas that have a limited chance of succeeding but which hold great potential if they do

Evaluation process:

Step 1
- Talent Panel: Originality, impact, Appropriateness
  - Desisive vote, application
  - Independent rating of applications. Each application is rated by 3-4 panel members. Each panel member has one decisive vote.

Step 2
- Final screening: Level of expertise
  - Final recommendation
  - The panel’s ranking is maintained, but a “quality threshold” is introduced and applications which fail the screening test are disqualified.

BoD Grant decision
Peer review and lottery

“We have a strong reluctance to admit uncertainty and indeterminacy in human affairs. Rather than accept the limits of reason, we prefer the rituals of reason” (Elster 1989)

A combined peer review and lottery evaluation system will reduce bias.

It will increase diversity, free up time and likely be more acceptable for the (declined) applicants

Fang and Casadevall 2016
Adapting review panels for competitive HRHR funding programmes

• Include persons on the review panel that have experiences in assessing highly innovative projects

• Introduce a panel grading system that encourage risk and diversity

• If the focus of the call is on the project IDEA consider applicants to be anonymous

• Consider a `non-consensus` review panel approach (e.g. Experiment Call at Volkswagen Stiftung, Villum Fonden and Lundbeck Foundation)

• As a funder experiment with your review processes in a controlled manner

• Show interest in the people you fund!