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místopředseda vlády ČR
předseda RVVI
a členové RVVI

Prague, September 25, 2017

Dear Mr. President of the RVVI:

As a member of the International Advisory Panel of the RVVI and in an attempt to further improve the international standing of Czech science, I take the liberty to comment on the operation of the Grant Agency of the Czech Republic (GAČR). Relying on my familiarity with science funding in other countries but also recognizing my limited understanding of the conditions under which GAČR operates, I believe that Czech science would benefit if some of the operational procedures were modified.

I have sent a draft of this letter to all members of the International Advisory Panel of the RVVI. All those who responded agreed that the recommendations made below are reasonable and one even expressed a desire to co-sign the letter, but most felt that they would need to learn more about the operation of GAČR before they could sign. Although a thorough evaluation might be desirable and possibly could be extended to other science funding sources, it would most likely add another year before recommendations could be written. In the meantime, perhaps an outsider's perspective could get some deliberations started.

(i) The leadership as well as the personnel of GAČR and the scientists working for it on various panels should be commended for doing a remarkably good job within the framework of the present rules of operation and the very limited budget. The absence of stable long-term financing is the biggest problem that hinders not only GAČR but Czech science in general.

(ii) It would be advisable to form an independent committee of foreign scientists tasked with evaluating GAČR and modifying its rules of operation periodically. It would be ideal to include foreign scientists in the governing board of GAČR, but it might be difficult to accomplish, given the large workload.

(iii) The present rules do not encourage the production of a maximum number of significant and fundamental new scientific discoveries, they encourage the production of a maximum number of publications ("outputs"). Scientific excellence is measured by the former, while the latter is nearly irrelevant. The requirement to predict in a proposal the number of publications that will result if the work is funded is meaningless and should be removed.

Performance evaluation, both in judging proposals and in evaluating final reports, seems to be based largely on numerical indicators, such as the number of publications and H-index. Although such data contribute to the overall portrait of a successful scientist, by themselves they are of limited value.

Banishing proposal writers for three years after their project fails is counterproductive. A significant percentage of proposed projects should be expected to fail, otherwise their authors have not set the bar high enough. It is easy to recognize the rare projects that did not produce publications because the principal investigators did not work very hard from those that were thwarted by Nature.

The present rules do not stimulate taking risks and exploring the truly unknown, they encourage scientists to propose "safe" projects largely based on work that they have already done. A project that proceeds exactly as proposed may verify current knowledge and may be valuable and useful engineering, but it does not advance fundamental science since nothing new has been discovered. Although such work is also needed, it is unwise to strongly discourage risk-taking.

(iv) The degree of micromanagement is excessive. It would save time both for the scientists and for GAČR if the agency trusted the principal investigators more. The amount of paperwork associated with proposal writing and grant management and reporting should be minimized. Requiring names of co-workers to be specified in a proposal well before a funding decision is made leads to harmful in-breeding and should be abolished. Issues such as changes in the personnel composition of a research group should be strictly up to the scientist. Approval of fund transfer between categories (personnel vs. supplies vs. travel, etc.) should be essentially automatic. Approval of transfer of funds from one year to the next may require a change in the present law but it would be highly beneficial; prohibition thereof encourages waste. When a scientist moves from one institution to another, grants should follow the principal investigator automatically.

In proposal evaluation, focus should be on science and not on the fine details of budget justification, estimated times for reaching intermediate goals, detailed specifications of which collaborator will perform which task, etc. In fundamental science, new discoveries are essentially unpredictable and most of these statements about what will happen in two or three years are fictitious anyway. The requirement that some grant money must go toward the salary of the PI ("workload" for the PI, min 30% and for co-PI, min 20%) should be abolished. Principal investigators should be encouraged to and not prohibited from leveraging their GAČR funding from other sources such as Brussels.

(v) Only one proposal per investigator (plus an international collaborative one) is now allowed once a year. Why not allow scientists with several creative ideas and enough energy to submit several? It would make more sense than forcing them to ask their group members to submit these additional proposals for them. The only purpose of the restrictions seems to be to increase the proposal success rate artificially. However, the success rate can in no way be viewed as a measure of the quality of the performance of any grant agency.

(vi) It presently appears hopeless to apply for a second, let alone third continuation grant on the same project. This is not advisable. Few truly significant questions can be answered in just a few years.

(vii) Institutions should not be allowed to siphon off grant funds by "taxing" the grants awarded to their employees beyond the approved overhead.

(viii) Scientists working on GAČR panels are overworked. A detailed evaluation of every proposal every year is not necessary, and it should be done only at the end of the grant period (in contrast, an annual check of finances is sensible). Also, it appears that the present conflict of interest protections in panels may be exaggerated.

(ix) Junior scientists deserve extra support and protection. It is now very difficult to obtain start-up funds from a university or an institute. Junior grants should be substantial and should be for a five-year period; three years are not enough. They should not be merely a mechanism for a senior scientist to get additional funding for his or her projects through others in the group, they should lead to a birth of a new independent principal investigator.

Sincerely,



Josef Michl