FNP
Foundation
for Polish Science

Summary of evaluation of TEAM and WELCOME programmes

In the autumn of 2015 the Foundation for Polish Science (FNP) conducted an assessment of the scientific value of projects funded under the WELCOME and TEAM programmes as well as their usefulness for the development of young researchers.

The first of the programmes (TEAM) was designed to raise the involvement of young scientists in research carried out in the best teams and laboratories in Poland, and was addressed to leaders of teams conducting research in cooperation with a foreign partner and intending to hire young PhD's, doctoral students and undergraduates for their teams. In the competitions conducted under the programme in 2008–2012, 73 projects were selected, lasting 2–4 years, and the total amount of grants awarded was PLN 150.9 million. The second programme (WELCOME) was designed to involve distinguished scientists from abroad in creating research teams in Poland and to enhance the foreign cooperation of Polish research units, and was targeted to foreign scientists or Polish scientists returning to Poland from abroad, who wanted to conduct projects in Poland in cooperation with young scientists. As a result of recruitment to the programme in 2008–2010, 11 projects were chosen, lasting at least three years. The total amount of funding for projects was PLN 63.2 million.

In the autumn of 2015, the projects funded in the two programmes were already completed or in their final stage of implementation (the deadline for completion of all projects was December 2015). This enabled an assessment of their initial scientific effects, which was vital for the Foundation in light of the amount of funds involved (a total of over PLN 214 million) as well as the innovative nature of both programmes, not only among FNP's contributions but on a nationwide scale. There was also a need for assessment of the quality of the funded projects and a thorough analysis of the experience gained during their implementation, in light of the new initiatives planned by the Foundation during the 2014–2020 financial perspective—initiatives that will for the most part be focused around funding of research teams.

Purpose, scope and form of evaluation

The main goal of FNP's evaluation of the WELCOME and TEAM programmes was to assess the scientific quality of the funded projects. This assessment was entrusted to a group of international experts, whose task was to respond to these questions:

1. To what extent have the funded projects proved important for the development of the field of research in question?

2. What influence have the funded projects had on the scientific development of the team leader (the recipient) and other researchers involved in the project, particularly the members of the funded team?

To ensure competent evaluation and expert discussion on the value of the funded projects, they were divided into two thematic groups for which experts in the relevant research fields were selected.

1. Life science projects, of which there were 39, were evaluated by five experts:
   - Prof. Jacqueline de Belleroche (*Division of Brain Sciences, Department of Medicine, London Imperial College*)
   - Prof. Witold Filipowicz (*Friedrich Miescher Institute for Biomedical Research, Basel*)
   - Prof. Joan J. Guinovart (*Institute for Research in Biomedicine, Barcelona*)
   - Prof. Magdalena Konarska (*The Rockefeller University; Centre of New Technologies, University of Warsaw*)
   - Prof. Varda Rotter (*Department of Molecular Cell Biology, Weizmann Institute of Science*).

2. The 45 projects in the exact and technical sciences were evaluated by eight experts:
   - Prof. Jerzy Bernholc (*Department of Physics, North Carolina State University Raleigh; Oak Ridge National Laboratory*)
   - Prof. Carlos J. Gómez-García (*Catedrático de Química Inorgánica, Instituto de Ciencia Molecular, Parque Científico, Universidad de Valencia*)
   - Prof. Tom Gregorkiewicz (*Van der Waals–Zeeman Institute, University of Amsterdam*)
   - Prof. Zygmunt Gryczyński (*Department of Physics and Astronomy, Texas Christian University*)
   - Prof. Karol Miller (*Intelligent Systems for Medicine Laboratory, University of Western Australia; School of Engineering, Cardiff University*)
   - Prof. Guido de Roeck (*Department of Civil Engineering, KU Leuven*)
   - Prof. Peter Talkner (*Institut für Physik, Universität Augsburg*)
   - Prof. Adam Wolisz (*Telecommunication Networks Group, Technische Universität Berlin*).

Each project was evaluated in writing by two experts and then discussed by the whole group of experts in the given thematic group. The experts made their assessment on the basis of:

- Information about the project (the amount and period of funding, the size and structure of the team, and foreign partners)

- Original description of the research project (from the competition application)
- Scientific CVs of the recipient during the competition period
- Recipient's own summary of the project results
- List of publications and patents or patent applications arising from the project (through September 2015).

Results of evaluation

The assessments formulated by the two panels confirmed the high value and great usefulness of both of the programmes, although the assessment was made on the basis of the existing, relatively early results and it may be anticipated that over the next few years projects that have just been completed will yield further publications or implementations. The research conducted in both programmes was regarded by the panelists as very valuable in scientific terms and decisively useful for the development of young researchers. According to the experts, most of the projects are amongst the top research projects conducted in the world and represent quality above the international average.

The quality of the research carried out in the case of the WELCOME programme was especially highly evaluated. In the panelists' view, the projects funded in the TEAM programme displayed a more varied but generally high level of research. That a comparison of the two programmes in terms of the scientific quality of the projects came down decidedly in favour of the WELCOME programme complies with the objectives of both programmes: the WELCOME programme was aimed at a narrower group of scientists and had fewer recipients, while also offering much greater funds and a longer period for implementation of projects.

The selection of projects for funding was found to be a success, particularly in the WELCOME programme (TEAM programme had many more recipients). Although, as the panelists pointed out, among the implemented projects there were no studies carrying a high degree of research risk, the ventures selected for funding enabled valuable research to be conducted and stable research groups to be built. According to the experts, in the case of several projects (primarily in the TEAM programme, and one WELCOME project), the Foundation took certain risk in selection of the applications, but this involved more the recipients' prior achievements rather than overly bold research hypotheses.

The overall assessment of both programmes came out very positive. They were found unanimously and unequivocally to be decidedly worth funding. According to the experts, they enabled—directly in the case of WELCOME and indirectly in the case of TEAM—research to be conducted in Poland by many outstanding researchers who had previously worked abroad. In the case of the WELCOME programme, this challenge was

particularly great, because it is unusually difficult to encourage a distinguished scientist enjoying success abroad to move to Poland. In the case of each of the programmes, teams appeared in Poland conducting research on internationally competitive level, which increases the attractiveness of Poland as a location for research work. The high quality of the research conducted, combined with the advantageous financing conditions, brought young researchers to Poland from abroad, and to a greater degree, allowed Polish scientists to conduct research at a global level. According to the experts, the conduct of both programmes by the Foundation—from the competitions and the evaluation of the applications to the open recruitment to teams conducted by the recipients, international cooperation and the works they published—undoubtedly raised Poland's visibility on the scientific map.

The projects that were rated below international average (one WELCOME project and 14 TEAM projects) were criticized by the experts primarily for their lack of measurable research results. Reservations were asserted firstly to the lack of publications (or patent applications) and secondly—perhaps even to a greater degree—to the tendency visible in some of the projects to publish in journals not playing a very great role in scientific exchange. This not only speaks poorly of the recipient's publication strategy, in the experts' view, but also raises doubts as to the quality of the results generated. Another objection that was often stated (in the case of the life science experts) concerned the scale and structure of the funded teams: too many PhD students per group leader raises concern about the quality of the education of young researchers.

Recommendations

In formulating recommendations for the Foundation, the panelists stressed primarily:

- The importance of the candidate's scientific accomplishments in evaluation of applications. Particularly in the case of scientists at an advanced stage of their career, their scientific CV is, in the experts' view, a strong predictor of further achievements and should fundamentally influence the assessment of the application. Importantly, achievement should be assessed not quantitatively, but qualitatively—a point which both applicants and reviewers should be sensitized to.

- The need for substantive control by the Foundation over progress of the projects it supports, particularly when they are complex, costly and long-term projects. In the panelists' view, in some problematic situations a possibility - clearly communicated by the Foundation - should exist to limit funding of the project. The Foundation should also consider organizing periodic meetings at which all groups funded by the Program would report on progress of the projects; such meetings would also stimulate networking. Meanwhile, recipients should be

afforded flexibility in conducting their research—in terms of the research goals, the research methods, and the composition of the team.

- Concern for the quality of education of PhD students. One of the solutions proposed was a formal restriction on the number of PhD students in the team, and another was to carefully evaluate the structure of the team at the competition stage. According to the experts, it would be worthwhile to introduce a system of rotation of PhD students in the first year of their doctoral studies so that PhD students could select the best team, support mechanisms directly addressed to them, and systematic study of the development of the careers of PhD students. (e.g., requirement for the PhD thesis committees monitoring annually a progress of the thesis; preparation for post-PhD careers)..

- Concern for the continuity of teams. In programmes aimed at supporting research teams and not a single researcher, the Foundation should require recipients to demonstrate how they will seek to insure the continuation of their team (whether they foresee winning other grants or see a possible successor in their group). As the experts pointed out, it would be worthwhile to enable realization of a project by several leaders of teams. Involvement in a project by several experienced researchers increases its effectiveness and builds continuity, particularly when one of the leaders is ending his or her research career or is partially working abroad. This comment applies especially to the WELCOME and alike programmes.

- Encouragement to apply for ERC grants as well as other EU funding. The panelists hint that programmes like WELCOME and TEAM should pave the way for recipients to apply for and eventually be awarded ERC and other EU grants. Taking into account a very low success rate in the ERC competition, they do not imply that ERC grant should be a key expectation of the FNP laureates or explicit criterion in assessment of their projects. The panelists do, however, recommend that FNP awardees should be encouraged to apply for ERC grants as well as other EU funding programmes.

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March 2016

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