



Statement for the Annual Global Meeting of the Global Research Council
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The National Science Centre (NCN) and Responsible Conduct of Research

The National Science Centre is a Polish executive agency set up to fund basic research. The NCN was established by a separate legislative act and is supervised by the Polish Ministry of Science and Higher Education. The NCN supports research in the following three broad areas: Arts, Humanities and Social Sciences; Life Sciences; Physical Sciences and Engineering. The NCN was officially opened on 4 March 2011.

The need for NCN

The rationale behind the creation of the NCN was to change the shape of Polish research and to enhance its competitiveness on a global scale. Prior to this, research in Poland, although quite rich in terms of the number of individual researchers and research institutions as well as the range of topics covered, was characterised by underfunding and poor quantifiable research records. As a result, a major overhaul of the research funding system was deemed necessary to address the abovementioned issues. One of the effects of the undertaken reforms was the creation of two funding agencies, namely the National Science Centre and the National Centre for Research and Development, focusing on basic and applied research, respectively.

Funding schemes

The National Science Centre supports basic research by funding research projects of individual scientists and research teams as well as doctoral fellowships and post-doctoral internships. The NCN announces calls for proposals four times a year. The NCN offers the following nine funding schemes aimed at both novice and experienced researchers:

- OPUS: general grants for a wide range of applicants.
- PRELUDIUM (prelude): pre-doctoral grants.
- SONATA: addressed to scientists holding a doctoral degree starting their career in research.
- SONATA BIS: addressed to researchers holding a doctoral degree, wanting to establish a new research team and become independent research leaders.
- HARMONIA: a funding opportunity to carry out research in cooperation with foreign partners.
- MAESTRO: for advanced researchers wanting to conduct pioneering research.
- ETIUDA (etude): scholarships for PhD students; funding includes a monthly salary for a period of 12 months and a 3-6 month long internship abroad, including travel allowance.
- FUGA (fugue): post-doctoral internships; addressed to scientists holding a doctoral degree about to embark on a career in research. The programme intends to facilitate the mobility of Polish researchers between different research institutions in Poland.
- SYMFONIA (symphony): interdisciplinary grants; intended for outstanding scholars and scientists wanting to carry out interdisciplinary or cross-domain research in collaboration with teams representing different areas of science.

Along with the basic schemes, the NCN plays an active role in several international networking programmes, such as: ASPERA-2 (Astroparticle ERA-net) and ApPEC (Astroparticle Physics European Coordination), HERA (Humanities in the European Research Area), NORFACE (New Opportunities for Research Funding Agency Cooperation in Europe), INFECT-ERA (Infectious Diseases), Joint Programme – Neurodegenerative Disease Research, and the Joint Programming Initiative on Cultural Heritage.

In its first two years of operation, the NCN has received more than 25 thousand research proposals and distributed over 5.5 thousand grants totalling about € 500 million. The average proposal success rate was about 22%.

Tools to ensure responsible conduct of research

The NCN follows the principles of research integrity adopted by Science Europe¹. The key to just evaluation and being able to select the best research proposals from among those submitted is a well-designed and implemented peer review process. In the NCN, this process's strength and fairness is based on the following cornerstones: proper division of the whole research space into 25 broad discipline panels, definition of clear and well defined evaluation criteria, selection of competent experts and external reviewers, a two-phase evaluation scheme, and the appointment of highly professional discipline coordinators.

Discipline panels

The approximately 80 discipline panels defined by the Ministry of Science and Higher Education, which had been used previously for evaluation of research proposals prior to establishing of the NCN, were too narrow to assure impartial assessment. Experts from Polish research institutions usually personally knew most of the proposal applicants and were linked to them via numerous formal or informal ties. As expert groups were relatively small, it was very difficult to avoid and manage conflicts of interests and the whole evaluation system was prone to unethical conduct. To cope with the problem, the NCN Council, consisting of 24 prominent Polish scholars and scientists, defined 25 broad discipline panels, closely resembling those implemented by the European Research Council. Moreover, the expert teams were increased, usually involving more than a dozen experts selected from various distinguished Polish and foreign researchers.

Evaluation criteria

The major requirement in assessing proposals submitted to the NCN is excellence in research. The evaluation criteria vary depending on the funding scheme but in most cases they take into account the scientific achievements of the principal investigator and team members, the quality and novelty of the proposed project itself, the relevance of the planned costs to the subject and scope of the proposed research and the project feasibility. In judging scientific achievements of the proposal applicants, bibliometric data, such as the Hirsch index, are considered cautiously, obviously taking into account the considerable differences in such indexes for particular disciplines. It should be stressed that evaluation of the investigators is based on their scientific achievements, not on their positions in the institutional hierarchy.

In cases where the proposed research involves experiments that affect the human body or psyche, experiments on animals, experiments involving species of plants and animals protected by law or genetically modified organisms, the applicant must confirm receipt of the relevant permission from the appropriate body, such as a bioethics committee.

Selection of experts

Experts are selected by the NCN Council making every effort that researchers appointed as experts, along with their scientific competence and solid publication record, are individuals of proven ethical standing. To make evaluations by foreign experts possible all full project proposals must be submitted in English.

The NCN Council has defined a code of ethics for the members of the council as well as the experts. All possible conflicts of interest have to be exposed and the appropriate measures are taken. For example, experts representing the same institution as the principal investigator of the discussed proposal cannot assess the proposal and should not be present during the discussion on its merits.

Evaluation phase

Evaluation of proposals submitted to the NCN is divided into two stages. In the first stage, short versions of the research project proposals are evaluated in terms of content by two members of the expert panel. Scientific achievements of the investigators are also assessed. Then, each proposal is discussed by the entire expert team during its first meeting and it is either rejected or accepted for the second stage of evaluation. Full proposals accepted in the first phase undergo further evaluation by external experts, both

¹ *Global Statement of Principles on Research Integrity*, Consolidated Input from the European Working Group of the Global Research Council, Science Europe, November 2012

Polish and foreign, who are chosen following the recommendation of expert panel members. Based on those evaluations and discussion during the second meeting of the entire panel, the expert panels make final decisions on the ranking lists of projects chosen for financing.

An important role in the evaluation process is played by NCN discipline coordinators who are scientific officers responsible for launching calls for proposals for research projects and project evaluation procedure management. Their responsibilities also include evaluation of the impartiality of the peer review process. In particular cases, the coordinator, following consultation with the opinions of the expert teams, may change the order of research proposals on the ranking list. Experts whose professional or ethical conduct is dubious are put on a working black list and are not invited by the NCN anymore. Members of the NCN Council also have a role in keeping the high standards of the evaluation process by briefing the evaluation team members before their meetings and reminding them about good evaluation practices.

Special care is taken to prevent, detect and punish cases of plagiarism and self-plagiarism in applications as well as to avoid duplicate submissions of the same or very similar research proposals to the NCN and/or other funding agencies. Relevant procedures involving Polish agencies have been defined. We have also had some cases of international cooperation in these issues.

Project phase

The NCN monitors and supervises the current research projects by using some or all of the following tools:

- evaluation of yearly reports,
- audit at the funded institution premises by auditors appointed by the NCN Director,
- suspension of funding of the research project,
- termination of funding of the research project.

On-going monitoring of research projects is a duty of NCN staff. Yearly reports submitted by funded research institutions are evaluated and approved by expert teams appointed by the NCN Director. Some selected projects are audited by members of the NCN Supervision and Audit Department and if needed, external scientific or financial experts. The audits can be pre-planned, according to the yearly NCN Audit Plan, or ad hoc. The latter solution is used, for example, in response to allegations of misconduct. The NCN Audit Plan includes projects selected randomly, but also projects that are believed to be sensitive and high risk, for example reporting delays, conflicts between investigators or featuring considerable changes in the research plan. In cases of proven research misconduct, the NCN, along with the internal NCN measures, might submit a relevant report to the Ethics Committee affiliated with the Ministry of Science and Higher Education.

Post-project phase

Upon conclusion of the research project the NCN receives the final report. The report is evaluated by the relevant discipline coordinator and expert team, finally being approved by the NCN Council. For projects of funding exceeding PLN 2 million (app. € 0.5 million), the host institution has to ensure their external auditing with a specialised auditing firm. In the 5 years following completion of the project, the investigators can be subject to surveys and evaluations performed by the NCN. Moreover, all research papers resulting from the funded research should be reported within that period to a specialised NCN database.

Conclusion

The National Science Centre maintains, promotes and enforces high standards related to responsible conduct of research in line with the Principles for Research Integrity set out by the Global Research Council, i.e. honesty, responsibility, fairness and accountability². These general principles are translated into the responsibilities of the NCN, also articulated by the GRC, including: leadership, promotion, education, transparent processes, response to allegation of misconduct, conditions for research support, and international cooperation.

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² Statement of Principles for Research Integrity, Global Research Council, 2013 (draft)