



# **Strengthening the Role of the Foundation for Polish Science (FNP) in a Changing Landscape**

A Review of the FNP Programme Portfolio  
by an International Expert Panel

June 2010

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*The list is provided in alphabetical order. For short biographical notes, see Annex 1.*

## Preface

In October 2009, the Foundation for Polish Science –*Fundacja na rzecz Nauki Polskiej (FNP)* - asked a panel to undertake a review of its programme portfolio and make recommendations for its future developments. The programme portfolio of the FNP comprises more than 20 funding schemes. It has developed over the years and has been updated on several occasions with the creation of new schemes addressing the changing needs of the Polish scientific community and the discontinuation of schemes which were considered to be unsuccessful in uptake and/or impact. In the last years FNP has increased the number of funding schemes due to the fact that the FNP now manages part of the EU structural funds earmarked for research. An internal assessment by the FNP office found some of the funding schemes were targeting relatively small – and partly overlapping – audiences and were funding limited numbers of applicants. This assessment recommended a review of the entire portfolio with the view of restructuring the programmes offered by the FNP to the scientific community in Poland.

The need to rethink the FNP programme portfolio was also made necessary by the significant changes the Polish science funding landscape is currently undergoing. In the beginning of April 2010, the Polish Parliament passed a law creating a new, independent funding agency for basic research, the *National Research Center (NCN)* which is currently scheduled to start its operations in October 2010. Important element of change is NCBiR (National Center of Research and Development which was created in 2007, but is starting its activities only now. Its mission will be to fund frontier research and it is expected to run a competitive, responsive mode of funding based on independent peer-review system. The future role and programme portfolio of the FNP should take the funding strategies and activities of this new organisation into consideration.

The international panel members invited by the FNP Executive Board have knowledge of and experiences in different research funding systems. They were tasked to review the programme portfolio taking into account not only the FNP mission and means, but also the needs of the research community in Poland as well as the activities of other actors in the Polish research funding system. They were also asked to contribute their experiences of how different funding organizations in a national research system articulate their strategies and activities.

The activities of the panel started in February 2010, with the reception of a set of documents with background information on the FNP and its activities and on the Polish research system. The panel then met in Warsaw on 29/31 March 2010 to discuss the FNP's programme portfolio and meet with the Secretary of state in the Ministry of Science and Higher Education, *Professor Jerzy Szwed*; representatives of the Polish scientific community: *Professor Katarzyna Chałasińska –Macukow*, Rector, University of Warsaw and the president of the Conference of Rectors of Academic Schools in Poland ; *Professor Michał Kleiber*, President of Polish Academy of Sciences ; *Professor Jerzy Duszyński* from the Institute of Experimental Biology of Polish Academy of Sciences and former Deputy Secretary of State in the Ministry of Science and Higher Education ; *Professor Jerzy Langer* from Institute of Physics of the Polish Academy of Sciences, former member of the European Research Advisory Board (EURAB) and former Deputy Minister of Science ; *Professor Tadeusz Luty*, Honorary President of the Conference of Rectors of Academic Schools in Poland and former Rector of Wrocław University of Technology and *Professor Stefan Jackowski* from Institute of Mathematics, University of Warsaw and co-author of the Strategy for Development of Higher Education in Poland, commissioned by the Ministry of Science and Higher Education. The panel met also with members of the Council of the FNP; the Executive Board of FNP and FNP staff members.

This report is divided in three chapters. The first chapter puts the review in context. It describes briefly the Polish research system and the changes it is undergoing and presents the FNP and its activities. After a brief description of the review process, the second chapter provides the assessment and recommendations by the panel. It is followed by a third chapter with the concluding remarks of the panel.

# 1. The Foundation of Polish Science: its position in the Polish science system and its programme portfolio

## 1.1. Performance of the Polish research system: a short overview<sup>1</sup>

With a population of 38 million, Poland is the sixth largest country in the European Union and its seventh largest economy. It is a country with a long-standing scientific tradition. After the transition to democracy in 1989, the research and higher education system underwent a deep transformation process, equipping Poland with critical resources both in terms of institutions and human resources.

- Close to 2 million students are pursuing higher education in Poland. The country has increased its student's number fivefold in the last 20 years [from about 400,000 in 1990]. About half of the age-group 19-24 of young people are in higher education, one of the highest proportions in Europe, and the country has a relatively high percentage of students in the Science and Technology (S&T) fields. Over the past 8 years, Poland has doubled the number of foreign students (currently at about 14,000, close to a third of whom are from Ukraine and Belarus: 18 % and 12% respectively). Poland is projected to increase the share of its citizens with a higher education degree in the age group from 25 to 64 from 17% in 2005 to 25-30% in 2025.
- The number of Ph.D. students increased 20-fold in the period from 1991 to 2004 (from 1,600 to more than 35,000 respectively). In 2007, about 5,600 doctoral degrees were awarded. The share of students and awarded Ph.D. in S&T fields is relatively high (45% of doctoral students and 61% of awarded doctorates in 2007). Poland currently has about 61,000 researchers (full time equivalent).
- In addition to the 143 state universities and 78 institutes of the Polish Academy of Sciences which dominate the research sector (85% of research staff), research is also conducted at the approx. 180 research and development units (predominantly research

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<sup>1</sup> This chapter is mostly based material provided by the FNP and especially "*Science and Research Funding in Poland*" and "*Higher Education Development Strategy in Poland to 2020*". By including this in the report the panel accepts the general thrust of their well informed arguments

labs of industrial enterprises) and more marginally at some of the 300 private higher education institutions.

- In terms of research outputs, Poland ranks among the most productive countries in the world. According to the 2010 edition of the US Science and Engineering Indicators (Table 5-14), Poland occupies the 20<sup>th</sup> place worldwide and the 8<sup>th</sup> among EU countries. Also in terms of total number of citations –a proxy measure for quality of publications- Poland occupies relatively good places in some research areas. For example the 2006 edition of "Essential Indicators" ranks Poland among the top 20 countries – worldwide - in Physics, Mathematics, Space research, Chemistry and Engineering.
- Between 2007 and 2013, about 4 billion € from the EU Structural Funds are to be invested in science in Poland. They are distributed as follow: 2.6 billion € for scientific research and scientific infrastructure (1.3 Bln € respectively); 0.6 billion € for Infrastructure for universities and 0.8 billion € Human capital for science.

Yet despite those considerable resources and great potential, Poland cannot be counted among the leaders in science in Europe or worldwide. A range of indicators show that, despite its notable efforts and achievements in the transformation process after 1989, the country's position may decline in the on-going competition among modern economies to secure sustained economic growth and ensure their citizens comfortable standards of living through research and innovation.

- According to the report "*Intellectual Capital for Poland*", despite the achievements of the higher education system, it may fail to meet the demands of globally competitive economy. Poland ranked 19<sup>th</sup> out of 26 EU countries in a study by the World Economic Forum in this respect. In addition, the rise in the number of Ph.D. students in the last years should not obscure the fact that the propensity to pursue doctoral Programme is at 0.2 % of the age group 20-29, lower than in countries like Finland (1.3 %) or Sweden (0.9 %).
- Although in terms of absolute numbers Poland counts among the top countries both in number of publications and citations, its relative productivity (normalised for example by the population size) as well as its share among top quality researchers (for example among the top percentile in terms of citations) remains low.

- In international competitions for research funding, Poland performs poorly. The success rate in FP 7 lies below the average and Polish research institutions are mostly partners and rarely coordinators of the projects: only about 2% of projects are coordinated by researchers at a Polish institution and in most of the cases those projects are relatively small scale ones such as Coordination and Support Actions or Marie Curie Actions). In the first four competitions of the European Research Council (ERC), from over 1,000 grantees in EU and associated countries, only 4 are hosted by a Polish institution.
- Other global benchmark studies such as the universities rankings, European innovation scoreboard, the World Bank Knowledge Index (although some may be controversial), taken together, offer a consistent picture in which Poland is among the countries at the lower end of the rankings.

The reasons for the modest success of Poland in harnessing its resources and realising its full potential are numerous and multi-faceted and tackling them will require sustained and long-term collaborative efforts of actors of the Polish research system: policy makers, research institutions and Polish research community. The relevant actors are aware of the need to realise the potential of the Polish research system and have taken various measures to prepare the research system to be a key driver of the knowledge economy.

In the view of the Foundation for Polish Science there are however three main factors which stand in the way of Poland in its quest to realise its full potential. These are areas, which, if addressed in priority and adequately, may act as catalysts of the reform.

**(1) Under-investment in higher education and research:** The Polish higher education and research system is greatly underfunded: expenditure per students is about half of the OECD average and the total R&D investments are less than 1% of the country's GDP (including EU funding and private investments).

**(2) Structure of research funding:** FNP estimates that only about 15 to 20% of research funds are disbursed in competitive mode and not earmarked from the onset. A significant part of the funds disbursed in competitive mode are not channeled through independent funding structures – a standard in most other OECD countries – but are directly managed by the research ministry which often links it to what it perceives to be national priorities and

therefore use a selection process which may not necessarily reward excellence and risk-taking.

**(3) Structure of the research career in Poland:** The documentary evidence reviewed by the FNP paints a rather alarming picture of the research career structure in Poland. Young researchers perceive the research career in Poland as lacking transparent criteria for recruitment and promotion. In comparison to standards they often witness in other advanced countries, they believe that the current structure – characterised as "calcified" and "rigidly hierarchical" – not only delays the independence of young researchers but also effectively hinders mobility and ultimately blocks their advancement. According to the report "*Higher Education Development Strategy in Poland to 2020*", a third of titular professors are over 70 years old and 90% of staff members have earned their doctorate in the university they work in (compared with about 70% in Spain, 50% in France, 25% in Italy and Switzerland and few than one in ten in UK and Germany). One positive feature of the research career is the share of female professors: at 18% - it is one of the highest in Europe. However, it has been suggested that this may be also linked to the low attractiveness of the research career in general which lead to men leaving the field.

The challenges the Polish research system faces cannot be addressed by one single actor. In the following section, we briefly describe the Foundation for Polish Science, its strategies and efforts to tackle at least some of the issues described above. The subsequent section will then describe the current efforts of the state to reform the structure of research funding in Poland.

### ***1.2. The Foundation for Polish Science: its strategy and activities<sup>2</sup>***

The Foundation for Polish Science was created in 1991 as an independent, self-supporting, non profit organisation to support science and technological progress in Poland. It was established from the assets of the Central Fund for Development of Science and Technology (CFRNiT), a body in which state enterprise were required to contribute 1.2% of the value of its sold products to finance research and development.

The Foundation's initial endowment amounted to 95 million PLN (about 24 million €) and its assets are currently estimated at about 360 million PLN (about 90 million €). In addition to its own funds, the Foundation manages also – intermittently – third party funds such as part of

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<sup>2</sup> This section is based on documents provided by the FNP in particular "*The Foundation for Polish Science and its Programmes*".

the European Union structural funds. The annual spending of the Foundation varies according to the return on investment of its assets (of which it spends about 5%) and the flows of external funds it manages. For the year 2009, it spent about 28 million PLN of its own funds and 94 million PLN of EU structural funds (7 and 23 million € respectively).

The *objectives of the Foundation* as specified by its charter are:

- to support excellent scientists and research teams,
- to facilitate technology transfer,
- to support various investment initiatives serving science in Poland.

The Foundation has developed a range of activities to deliver its mission and its portfolio of activities has been updated to create new lines of activities, to reflect the changing needs of the research community in Poland or to discontinue activities which were seen as either ineffective – in terms of uptake and impact – or no longer relevant because the wider context changed or because they have reached their goals.

Historically (and with the risk of over-simplification), the development of the programme portfolio can be divided in two periods roughly corresponding to the first fifteen and last five years of the existence of the FNP.

*In the first period* three main areas weighted heavily in its programme portfolio:

- *Funding technology transfer*: the Foundation had a range of programmes including for example, investing directly in high-tech companies (Direct Capital Programme), easing their risk and providing loans (joint venture and loans programmes) and facilitating commercialisation of scientific discoveries (INCOME programme).

- *Updating and maintaining research infrastructures* : the programmes funded for example the purchase of modern research equipments in designated areas (e.g. IMMUNO, for research equipments in immune systems research) or for all fields (MILAB Programme); countering the decline of archival assets and large paleontological, zoological and botanical collections (ARCHIWA and BIOS Programmes respectively) as well as rehabilitating and modernising the libraries (LIBRARIUS Programme).

- Implementing European Union Programme: between 1992 and 2000, the Foundation was the implementing Unit of SCI-TECH, a programme to support reform of Polish science and technological process at the dawn of accession of the country to EU. In this period, the Foundation also coordinated CRIT, a programme aiming at strengthening IT research.

Other notable schemes run by the Foundation in this period include: (1) DOMESTIC COOPERATION, a programme aiming to foster mobility of researchers within Poland by funding research stays of young researchers (one to three-months) in another leading research center in their areas. (2) SUBIN, a programme to support – in a flexible and rapid manner - research initiatives which could not obtain funding from other sources. The programme was designed mainly as "stopgap funding".

*The current period* corresponding roughly to the last five years, saw the Foundation adopting a new strategy, gradually redesigning its programme portfolio and reforming its operations.

The Foundation's new strategy redefines its role in the research funding system: instead of striving to be a full-fledged funding agency, which gives grants for large scale or long-term research projects to the whole community of Polish Researchers, the Foundation aims to provide additional funding to encourage and reward the *best* researchers in Poland: Its new motto is "*supporting the best, so that they can become better*". Its focus is currently on four areas:

Developing new models of research funding: this entails testing new funding schemes especially in line with the Foundation motto, to support outstanding researchers.

Supporting the scientific career of young researchers: at all stages of their career: doctoral, postdoctoral and their transition to independent research leader.

Example of schemes in those areas, include START, a one year stipends for younger researchers to enable them to devote their time entirely to their research; KOLUMB, an postdoctoral fellowship for a visit of 6 to 12 months) in leading research center abroad , FOCUS, funding for young researchers enabling them to establish their first research team and IDEAS FOR POLAND, a scheme to encourage researchers to select a Polish research institution as host institution for their ERC Grant.

Fostering international scientific cooperation: to increase participation of Polish researchers in global achievements and facilitating their mobility. In this area the Foundation for example

has an agreement with the Alexander von Humboldt Foundation and the German Research Foundation (DFG) to run programmes (Alexander von Humboldt Honorary Research Fellowship and COPERNIS Prize respectively) to foster Polish-German cooperation.

*Managing parts of the EU structural funds:* some of the programmes of the FNP are funded by the EU structural funds, whereby the Foundation designs the schemes and decides on operational issues. Currently, the EU structural funds account for three quarter of its annual spending on programmes. Examples of FNP schemes which are financed by the EU structural funds are HOMING, a programme to support returning Polish scholars; PARENT-BRIDGE Programme, a programme to help female researchers with small children to return to research and support pregnant female researchers who work in sensitive conditions as well as VENTURES, a programme to support innovative projects initiated by postgraduate students and PhD students.

The current activities include more than 20 funding schemes and other activities which mainly address the four areas sketched above and other goals sets by the charter of the Foundation. They can be divided – in simplified form- into five categories:

- (1) Grants and scholarships
- (2) Scientific prizes
- (3) Support for publications
- (4) Facilitating technology transfer
- (5) Science policy activities

An overview of the current programmes is provided in Table 1 in annex II.

In terms of operations, in the last five years, the Foundation strengthened its principle of an independent, peer-review based selection process for all its programmes. International referees make up a third of the roughly 1,200 referees the Foundation relied on in 2009. The Foundation also adopted a Code of Ethics to guide its operations: it is addressed on one hand to the FNP authorities, staff members and referees and on the other, to applicants and beneficiaries.

## **1.2. The changing research funding landscape in Poland**

Reacting to the challenges briefly sketched in Section 1.1 and responding to calls from the Polish Scientific Community (and not least from FNP), the public authorities have undertaken a variety of initiatives to reform the Polish research system. A milestone in those efforts is a new reform package, which passed the Polish Parliament in April 2010, and is expected to profoundly reform the financing of higher education and research.

This reform of research funding, is part of a comprehensive reform package called "*Building Knowledge - Reform of the Polish Science for Development*" which was unveiled in September 2008, together with the announcement to increase the research budget.

The package consists of a set of new laws (5 in total) and aims to introduce a transparent system of funding, increase the efficient use of public funds devoted to R&D and increase the share of funding awarded in competitive modes.

The Law on the Principles of Research Funding provides – among others – for the creation of advisory bodies to ensure the quality of research institutions (through assessment by an Accreditation Committee whose results will have funding consequences) and to determine priorities of R&D investments (by the Science Council).

Two laws; the Law on Research Institutes and the Law on Polish Academy of Sciences address the funding of non-university research institutions: namely the Polish Academy of Sciences and other Research institutes. The laws foresee important changes in their legal structures (e.g. institutes of the Polish Academy will have a legal personality) and introduce new evaluation mechanisms with consequences for the funding of both types of institutions.

Two other laws deal with new structures for research funding.

The Law on National Research and Development Center (NCBiR) makes some changes in the mandate and operations of the NCBiR which was established in 2007 to fund applied research. The new law expands its mandate in the identification of strategies and includes the management of research development in the field of security and defense.

The Law on the National Center for Science (NCN) provides for the establishment of a new, independent funding institution. It will operate under the principle of competition and fund

basic research. The funding will target individual and institutions and earmark at least 20% for researchers less than 35 years of age.

Although the details of operations are not yet clearly fixed, it is expected that the NCN will develop a rigorous selection process, combining elements of the peer review system of the European Research Council and the US National Science Foundation. Its budget is not set, but estimates see it in the range of the budget of the NCBiR which is about 100 million € per annum.

It is in this context of a changing funding landscape, uncertainty about the sustainability of EU Structural Funding passing through the Foundation and against the background of the rapidly increasing number of the funding schemes of the Foundation (based on both its own resources as well as EU structural funds), that the review of the FNP's programme portfolio was requested. In the next section, the review process is briefly described and the assessment and recommendations by the panel outlined.

## **2. The review of the programme portfolio of the FNP**

### **2.1 The review process**

The overall goal of the portfolio evaluation was to advise the FNP on how to restructure its programme portfolio. The FNP office designed the review to be conducted by an independent panel whose members were chosen to reflect experiences in science management from different countries and organisations. The list of panelists who took part in the review process, with short biographical notes, is provided in Annex 1.

The objectives of the reviews were twofold: (1) Identification of the most valuable activities. (2) Recommendations for development of the programme portfolio.

This involved a comparison of the programmes, in the context of the needs of the research community in Poland; mission and budget of the FNP; activities of the other actors in the Polish research systems and international experiences on how different funding mechanisms and funding bodies articulate their strategies and activities.

The panel's work was guided by the following review questions formulated by the FNP.

1. Is the FNP's programme portfolio adequate for the Foundation's goals and role as well as to the needs of the scientific community and does it adequately reflect its mission "Supporting only the best, so they can become even better"?
2. Which important needs of the research community have not been met by the Foundation so far and should be considered in the new programme portfolio?
3. Which areas of the FNP's activity should be left to other actors and which should be the scope for the Foundation's niche?
4. How could and should the Foundation benefit from its private status in regard to its funding portfolio and selection procedures?

It was also left to the discretion of the Panel to address any other issue it judged relevant in the context of its overall mandate and to organize its work by allocating responsibilities. At its meeting in Warsaw on 29/31 March 2010, Professor Frank Gannon, Director General of the

Science Foundation Ireland accepted the request of the panel to chair its activities and report on its findings.

To address the review questions and develop its recommendations, the panel undertook the following activities:

**(1) Review the documentation on FNP and the Polish research system:** The FNP provided the panel a set of documents on the Polish science and higher education system with key facts and figures. It also prepared a set of material containing a self-assessment report (reflecting on its past and future and its views on the context in which it operates). The documents acquainted the panel members with the context and formed a basis for their opinions on the programmes of the Foundation. A list of documents reviewed is provided in Annex 3.

**(2) Review the feedback of representative of the Polish research community:** in preparation of the review exercise, the FNP office asked selected representatives of the Polish research community to provide their view on the role, activities and future strategy of the Foundation. The questions asked to the representatives of the Polish research community and the list of those who provided feedback is listed in Annex 3.

**(3) Gather further information sessions:** At its meeting on 29/31 March 2010, the panel met with various key stakeholders to listen to their views, discuss identified issues and future plans, and clarify questions. Specifically, the panel held information sessions with the following groups:

- Key figures in the Polish research systems and representatives of the Polish research community. A list with short biographical notes is provided in Annex 5.
- Members of FNP Council, Executive Board and FNP staff, whose list is provided in Annex 6.

**(5) Discussions and preliminary formulation of recommendations:** At the meeting, the panel members exchanged views on review questions and the context in which the FNP operates and drafted the formulated preliminary recommendations which were communicated to the members of the FNP Council and FNP Board on 31 March 2010.

The drafting of the report continued through email exchanges. The following section summarises the finding of the panel and its recommendations.

## **2.2 Recommendations**

### **2.2.1 Introduction**

Before addressing the individual review questions, the panel found it necessary to reflect on the FNP as an organisation, its role in the Polish science system and the changing context in which it operates. The following section provides the views on the panel on these issues and should be seen as a background to the assessments and recommendations which are reported below.

### **2.2.2 FNP in the new research system: strengthening its role through a strategy of growth and organizing its constituency**

#### **Recommendation 1:**

**The panel strongly supports the continuation of the FNP's successful work. In the spirit of its guiding principles (peer-review, excellence as funding criteria, responsive mode), the FNP should continue spearheading developments by setting standards and new models. The panel recommends that the FNP adopt a strategy of growth, which will enable it to enhance its impact and avoid being relegated to a marginal role in the new funding system. The Foundation should look for new opportunities to expand its services to the Polish scientific community. This can be achieved in particular by expanding its management of third party programmes including, but not limited to, managing government's funds in areas in which it has built critical competences.**

Overall, the panel is unanimous in its opinion that the Foundation for Polish Science is an exceptionally successful organisation, which enjoys the strong support of the Polish scientific community.

In the course of its existence, the organisation has played a leading role in the modernisation and reform of the Polish science system. It has been an experimental platform for new ideas on research funding and it has set the highest standards in its funding operations. Those standards often serve as reference when other Polish funding structures are assessed by the Polish research community. The Foundation introduced competitive features into the funding landscape in Poland using an independent, peer-review based selection process. After the closure, in 2002, of the public independent funding agency, the FNP was the sole funding

body where researchers could apply for funds in areas of their choices without fitting their research ideas in pre-determined research topics. The panel was in no doubt that the FNP has been instrumental – by providing a model to aspire to - in the new developments which lead to the re-establishment of a publicly funded independent funding agency: the National Center for Science.

## **Recommendation 2:**

**The panel recommends that the Foundation strengthen its independence especially in its management of third party programmes (including management of government funds). In all those activities the Foundation should have as a core criterion for engagement with third parties the retention of its independence both in strategic (setting the agenda) and operational (design the delivery mechanism) sense [‘No strings attached’].**

The newly created publicly funded research funding institution is mandated to support basic research and is required to apply the same principles the FNP uses: independent and transparent peer-review based selection process. Moreover it is requested to address – at least partially – the needs of the younger generation of researchers in Poland. This raises the question of how overlapping the activities of the two institutions (FNP and NCN) will be and invites reflections on the general strategy of FNP in light of those changes.

The panel strongly believes that in the new research funding system the Foundation has its place and should play an even bigger role in the support of Polish science. All robust national funding systems which promote the principle of competitive research funding rely themselves on complex funding structures which - in an interplay of cooperation, coordination and competition – complement each other and, together, achieve the best services for the research communities they serve. The panel recognizes that it will take the new agency a number of years before it is functioning at its full potential. The possibility of the FNP going beyond an advisory role and acting as the deliverer of the programmes new agency would be viewed positively by the panel. In the short term, the Panel recommends the FNP to adopt a strategy of growth in order to enhance its impact and, to avoid an unplanned gap in the system, should not curtail its activities in areas of potential overlap with the new agency until that entity is fully functioning.

The panel is aware of the potential conflict between the recommendation to manage third party programmes and the independence of the Foundation. Indeed the independence of the

Foundation has been decisive for its success. The panel believes that this independence should be preserved in the future and should remain an important guiding principle in the governance and management of the Foundation. However, the Panel sees no inherent contradiction between the independence of the Foundation and the management of external funds including government funds. It believes that it is possible to design arrangements in which the Foundation delivers high quality services without compromising the very principles which make it a successful organisation.

FNP should be open to broader funding of international collaboration (e.g. doctoral schools, academic exchanges ...), provided that external funds – ideally governmental funds - are secured.

On topic of the management of external party funds, the panel wishes to highlight the experience and success of FNP in implementing EU projects and more recently in the management of parts of the EU structural funds earmarked for research. It should be noted that managing external activities by the FNP is beneficial both to

- the Polish research community (which gets good, tested and trusted services) and
- the FNP for the synergy created between its own and external programmes. For example science management infrastructures (e.g. peer review) profit from scale effects and there is likely to be fruitful cross-fertilization and sharing of lessons learned between the programmes.

### **Recommendation 3:**

**FNP should very actively create a network of alumni which will be a sounding board for the Polish research community. It can convey the wishes and problems of the scientific community and could help create a platform from which scientific cooperation could arise. In this way it could be a powerful support constituency for the FNP.**

A critical factor in strengthening the role of the of FNP in the Polish science system will be to reinforce the ties of the FNP with the scientific community it serves and on which it relies in its activities such as peer-review. The Foundation has funded the best Polish researchers in recent years and they are its natural constituency, support base and connection to with the research community. It should build on it and create a mechanism which enables this community to provide feedback and support from the research community on current and

planned activities of the Foundation. In this respect, examples of other organisations such as EMBO or the Alexander von Humboldt Foundation, with strong alumni networks can provide inspiration.

### **2.2.3 FNP Programmes: fitting its mission and scope of its portfolio**

This section addresses the first review question: "*Is the FNP's programme portfolio adequate to the Foundation goals and role as well as to the needs of the scientific community and does it adequately reflect its mission "Supporting only the best, so they can become even better"?*"

#### **Recommendation 4:**

**The panel recommends that the FNP Charter be seen in a holistic manner rather than in discrete goals which should be addressed by dedicated funding schemes. In particular with respect to the chartered goal of *facilitating technology transfer*, FNP should consider not to address it in separate funding schemes, but to present its funding as "*research with consequences*" and highlight – in its reporting obligations - how the second chartered goal is addressed, indirectly, by existing funding schemes.**

The panel finds that the programmes of FNP very adequately address the elements of its Charter.

The first element of the charter ("*to support excellent scientists and research teams*") is addressed by a number of funding schemes and the panel believes that this objective should remain the prime focus of the FNP activities.

The panel noted that the second element ("*to facilitate technology transfer*") is addressed by a separate funding scheme: VENTURES which encourages young researchers (Graduate and Ph.D. students) to take up research projects which are oriented towards practical applications. This programme has been in existence since mid-2008 and has funded about 23 projects.

The panel was not convinced that this programme was achieving its stated goals and formed the opinion that it existed primarily to address this element of the charter. The funding levels that are required to address this challenge for Poland is beyond the means available for this strand of FNP activity. The establishment of the NCBiR is a more appropriate response by the

Polish funding system and in this case the FNP has less to offer the new agency than it has to the NCN and hence disengagement is recommended.

The panel believes however that this element of the charter can better be viewed as addressed, albeit in an indirect manner by funding of excellent research projects. The basis of this analysis is the fact that frontier research of top quality inevitably generates novel and patentable results. These provide the basis for technology transfer and for engagement with industries directly or through the provision of highly skilled scientists and engineers. The panel accepted that this is succinctly summarized by the Science Foundation Ireland slogan: “*research with consequences*”. It felt that this holistic view provided for better integration of the FNP programmes but also mandated the FNP to ensure that those that they fund are sensitive to capturing economically relevant outputs and translating them through to exploitation. It is probably also more effective than to set up a dedicated funding scheme. In the opinion of the panel, setting up successful schemes to translate research results into commercial viable products/services can be quite challenging as it requires capital and skills typically found in dedicated venture capital funds and therefore beyond the means of even the biggest among the funding agencies.

The third element of the charter ("*to support various investment initiatives serving science in Poland*") is addressed by its activities of the funding in managing third party funding but also in its science policy initiatives listed in Table 1 (in Annex 2). Recommendation three above acknowledges this success and the confidence it gives the FNP to continue with such third party engagements and that it can do so without jeopardizing its independence.

#### **Recommendation 5:**

**The panel recommends that the FNP design the programmes in the category "grants and scholarships" to be broadly defined support schemes which target the four stages of research careers: Start; Boost; New Research Leaders and Reward. Those schemes should include – as an integral part of the support - elements to support international scientific cooperation and to enhance Polish European competitiveness. The support should also include provisions for the reconciliation of family life and research career. The schemes should also integrate different elements corresponding on the one hand to the strategic needs it wishes to address and on the other hand the needs of researchers it support.**

With regards to the scope of the FNP programme portfolio, the panel noted that the current portfolio includes a relatively higher number of funding schemes in the category "Grant and Scholarships" [see Table 1 in annex 2].

The panel finds that some of those programmes are narrowly focused (small target groups) and small in scale (a relatively low number of grants). This could be problematic because multiple programmes can be difficult to manage efficiently; they may also may confuse the targeted audience (especially if they overlap) and they may fail to make a lasting impact if they are too small in scale.

A possibility to overcome this situation is to have broadly defined support schemes, with clear goals such as enhancing the excellence of Polish research which integrate support for other strategic goals of the Foundation.

Examples of streamlining include:

- welcoming all researchers from abroad who wish to work in Poland whatever nationality they are, instead of having two programmes separately targeting Polish or foreign nationals.
- integrating (international and national) short-term visits in other grants according to the needs of researchers. This can vary from the use of infrastructures (such as archives), attending research conferences and workshops, to learning new methods, cooperating with colleagues etc ...

The Panel considered two possible implementing models:

- (a) a single funding programmes incorporating currently separate elements that target different career stages.
- (b) designing a small number of different but complementary schemes each explicitly targeting a distinct stage of the research career.

In the view of the panel, the second model presents the best option. It can be structured in a way that it supports all critical stages of researchers. The panel suggest considering four career stages:

- **Start:** for Ph.D. students

- **Boost:** for postdoctoral researchers
- **New research leaders:** for starting an independent research course
- **Reward:** for advanced researchers

While the operational principles can be defined in comparative terms, the schemes can be designed to meet the specific needs of each career stage. In this respect, the level and content of funding support (i.e. what is covered by the grant, its size and duration) should be guided by the *needs of the researchers*. For some schemes there might be need for "more money, for longer period", and even within a scheme targeting the same career stages, there might be specificities of research fields to be taken into account.

Key features that could be integrated into those schemes include:

- The fostering of "*international scientific collaboration*". For example the research funding could include the possibility and flexibility to collaborate with researchers abroad, to travel abroad for short or long stay etc ...
- Enhancing *Polish competitiveness in Europe*. For example, they could include elements of support to researchers who wish to prepare and qualify for European competitive research funding such as ERC Grants.
- Another important feature of those schemes should be support for reconciliation of family life and research work. The panel believes that the issue should be defined broadly and go beyond common schemes targeting female researchers. Such support should include for example, mechanisms to support all researchers with pre-school children or – when appropriate - dual research careers.

#### **Recommendation 6:**

**The panel recommends that the FNP rethinks the use of "biological age" in defining target groups and setting up eligibility criteria. It is recommended to follow the practice of other funding agencies which define the eligibility criteria in terms of research career.**

The panel discussed the distinction between different target groups and believes that this should be defined in terms of "career stage" rather than in biological age. The current practice of setting age limits for specific schemes risks penalising unconventional research careers,

ignores the specific patterns of different research fields and is at odds with practices of leading agencies in other countries which tend to use the "academic age" (e.g. years x after Ph.D.with corrections for parental leave etc.).

#### **Recommendation 7:**

**The FNP Prize has achieved a high standing both in Poland and abroad and should be maintained. The Foundation should consider establishing a similar prize for earlier career stage researchers.**

Any further development or indeed redesign of programme portfolio should build on support schemes which have proven to be successful and if needed should expand them. This is particular true for the **FNP research prize** which has high recognition in Poland and abroad and sometimes referred to as the "Polish Nobel Prize". Its 'brand' is strong and any new organization emulating it would need time to build up the legitimacy and prestige the current prize has.

#### **Recommendation 8:**

**The FNP support to enhance visibility of Polish research/scholarship should be continued whereby attention should be paid to specificities of different research results. For other research fields, the Foundation should support open access for the Polish Scientific Community.**

The FNP has played an important role in increasing the international visibility of Polish research by its support for publication charges. In particular this has proven to be highly relevant for Humanities and Social Sciences. Extending this process by engagement in the Open Access movement would be timely for Poland and appropriate for the FNP as a funding agency. The costs associated with a carte blanche approach to this should be monitored but, as a minimum, the research grants awarded should make provision for the cost of paying for Open Access.

The FNP should continue to monitor best international practice in mandating that research it funds should be available in a central database and freely available after a time delay of at most twelve months. In doing so the FNP should respect the different attitudes that prevail in different fields of learning.

## 2.2.4 FNP Programmes: new funding areas

This section addresses the second review question: " *Which important needs of the research community have not been met by the Foundation so far and should be considered in the new programme portfolio?*"

### **Recommendation 9:**

**The panel recommends that the FNP explores the possibility of developing a funding scheme to support outstanding researchers engaged in collaborative research undertaking in form of "FNP Research Groups". The FNP is recommended to seek external funding for this scheme.**

Without specifying the *modus operandi* and being prescriptive about the practical implementation, the panel believes that there is an opportunity to enhance the services of FNP to the Polish scientific community by establishing a research scheme to support **FNP Research Groups** in excellent host institutions in Poland. It should be noted that this is distinct from the traditional act of supporting research in groups that are already in place.

The panel is of the opinion that embedding research groups in excellent institutes with adequate support from their hosting environments and giving them a high level of independence can contribute to the improvement of Polish scientific environment. The scheme would reward institutions which are excellent both in scientific research and in offering good working conditions. This could have structuring effects on the research environment and excellent research groups could also have "ripple effects" on the hosting institution. The scheme could be an enhancement of HOMING Programme and it could encourage mobility (internal or international) and reinforce the cooperation between researchers in Poland, creating centers of critical mass and high quality. The need to stimulate mobility is a further motivation for this proposal, particularly in light of the statistics that show that most PhD students stay in their alma mater and presumably have a tendency to promote 'inbreeding' by extending their career in that location also. These groups could be selected to ensure that they increased the interdisciplinary possibilities for research in the host institute through internal collaborative research actions in Poland.

In its initial thoughts, the panel estimated the size of the scheme to be 10 research groups each about 500,000 € per year. As this will be an expensive project, the FNP Research Groups

would be encouraged to seek extra funding. The Foundation should seek external funding to operate this scheme.

### **2.2.5 Articulating FNP strategies with those of other actors**

This section combines the third and the fourth review questions:

- *Which areas of the FNP's activity should be left to other actors and which should be the scope for the Foundation's niche?*
- *How could and should the Foundation benefit from its private status in regard to its funding portfolio and selecting procedures?*

Those questions are partially addressed in Section 2.2.1. This section develops further the ideas of the panel on those issues.

#### **Recommendation 10**

**FNP should remain true to its guiding principles and continue on a path that recognizes the emergence of new agencies but awaits their development before dramatically altering its Programmes. In doing so the Independence enshrined in its statutes is seen as a major asset.**

The panel found a key distinctive feature of the FNP to be its focus on excellence and that it cannot be defined in terms of "target group" which other funding bodies also target. A distinction will be that the public funding agencies such as the NCN and will have to engage in "broader funding", ensuring that the whole system is well funded. The FNP focus on the "best" is still a relevant strategy in this new context.

The panel recognises that the context, in which the FNP operates, is changing rapidly and that the FNP should constantly monitor the activities and plans of other actors in the funding system and adapt its portfolio accordingly. The panel believes that, in the mid/long-term, the new funding agencies (especially the NCN) provide the FNP with new opportunities to redesign its offer to the Polish scientific community and engage in new activity in as which will benefit that community. In the short term; it would be premature to abandon well established funding schemes in anticipation of activities of an agency which will need time to develop its own portfolio. The impact of the NCBiR should be more immediate as it is

already in existence and addresses an area of the FNP portfolio that the panel would not view as most central to the FNP or most dependent on the skills associated with the FNP. The panel is of the opinion that an eventual division of labour between different actors in research funding will evolve gradually, in negotiations and discussions and as a consequence areas of distinctive activities will emerge.

In this context, the independent and private status of the Foundation will be critical. In the past, it has enabled the Foundation to use competitive funding mechanisms based on excellence, whereas other funding modes opted for an even, *juste retour* based spreading of funds.

Not being bound by administrative rules of public bodies, but having a reputation of very good governance, the Foundation has the possibility to continue significantly improving the support of the most outstanding researchers in Poland.

#### **Recommendation 11:**

**The panel recommends that the FNP position itself to help in the process of creating the new funding agency. It has the experience and skills in designing and running funding instruments based on an independent peer-review system. It is in a unique position to assess what works and what does not (and why) in the competitive, peer-review based research funding in Poland. The FNP should assist in all possible ways the new agency with those assets and if asked, arrange for knowledge transfer in organised way.**

The successful establishment of the NCN is the success of the Polish research community and the FNP. The panel recognises the difficulties any country would face in setting up a new funding agency. It will take time to be launched and even longer to be fully operational and mature into an established agency. Developing a balanced portfolio of funding schemes which meet the needs of the targeted research community and take into consideration its local specificities requires knowledge and experiences which the Foundation has accumulated over the years, through trials and tests and enriched through the feedback it has received from its grantees.

#### **2.2.6 A strong international network**

##### **Recommendation 12:**

**The panel recommends that the FNP continues to enter into collaborative networks with international partners, especially leading funding agencies, Foundations and international organizations and explore ways to set up fruitful collaborative activities. External funding, including State, private and European funds could help to broaden this approach and improve its impact.**

The FNP programme portfolio includes schemes which are based on collaborative agreements with international partners – both excellent research institutions and leading funding agencies and Foundations. The panel believes that these partnerships have contributed significantly to the success of FNP. The panel believes that the Foundation should continue in this line: renewing and deepening existing partnerships and broadening its ties.

### 3. Concluding remarks

The panel was asked to review the programme portfolio of the FNP and make recommendations for its future development. Such an exercise requires an understanding of the overall context in which the FNP operates and the panel has been well briefed by the FNP office both on the current research funding system and the planned changes.

The country is about to acquire a new publicly funded, independent research funding body which is projected to have a substantial budget. Initial thoughts of its *modus operandi* indicate that it will run bottom-up and competitive funding schemes which will rely on an independent peer review mechanism. This positive development can be credited to the FNP which not only intensely lobbied for the reform of funding structures in Poland but also has shown how competitive, peer review based funding works in Poland.

It is the opinion of the panel that a national research funding system which cherish the principle of competitive funding, should rely on complex funding systems consisting of different actors. The experiences of other funding systems has shown that a complex network of funding institutions, mostly public and charities, working in interplay of cooperation, coordination and competition, serve well their respective research communities.

The panel strongly believes that the FNP should play an even bigger role in the new funding landscape and it recommends it to adopt a strategy of growth, relying, if necessary to external funds, while at the same preserving its independence.

The establishment of a new funding agency offers the FNP the opportunity to redirect its (comparatively modest) resources into areas in which it can maximise its impact for the benefit of the Polish scientific community. The panel finds that the strategy of the FNP to focus to "support the best, so that they can become better", is relevant in the new context and should continue to be pursued. It is the distinctive mark of the FNP vis-à-vis others funding actors, which are mandated to ensure that the whole system is well funded.

On the programme portfolio, the panel makes a range of recommendations. It recommends restructuring the "grants and fellowships" into broadly defined funding schemes which encompass support for various elements such as international cooperation and reconciliation of family life and research career. Another important recommendation is to complement the

current portfolio with a scheme supporting "FNP Research Groups", which the panel believes will have beneficial ripple effects on the hosting environments.

The panel has refrained from making recommendations on details of implementation or on prioritisation of the recommendations. It believes however, that if those recommendations are carefully implemented they can contribute to strengthening the role of the FNP in the changing landscape and enhance its opportunity to continue serving the Polish research community.

## **Acknowledgments**

The panel wishes thank the members of the FNP Executive Board for their trust in the panel and making themselves available for questions and discussions during the panel meeting in Warsaw in March 2010. The panel hopes this report and the recommendations it contains will be useful in the reflections and discussions about the future course the FNP will choose to chart.

The panel also wishes to thank the representatives of the Polish scientific community who generously gave their time to meet panel members and share their views and experiences. During its nearly 20 years of existence, the FNP has served and continues to serve the Polish scientific community very well. Its success has been not least a result of the various partnerships it has forged with the best researchers in Poland and of the trust and support it has received from the best research institutions in Poland. The panel hopes that the FNP will continue to enjoy the support of the research community.

The work of the Panel was made easier thanks to important efforts of the FNP staff members who prepared informative background material without which any review would have been speculative. The panel would like to particularly thank Ms Marta Łazarowicz-Kowalik who coordinated this review.

## Appendixes

- Annex 1      Short biographical note of panel members
- Annex 2      Table 1: overview of FNP funding schemes
- Annex 3      List of documents reviewed by the panel and Feedback of representatives of the Polish research community
- Annex 4      Short biographical notes of representative of Polish research community with whom the panel met at the meeting on 29/31 March 2010
- Annex 5      Members of the Council and the Executive Board of the FNP and staff members with whom the Panel met at the meeting on 29/31 March 2010

## **Annex 1: Short biographical note of panel members**

### **Sven Baszio**

Dr. Baszio is Head of Division Europe at the Alexander von Humboldt Foundation. In this capacity, he is responsible for sponsoring and creating a network of excellent scientists in Europe through various schemes. Before he joined the Humboldt Foundation he was a scientist at the Senckenberg Centre for Biodiversity Research in Frankfurt. He studied computer sciences, biology and geology in Frankfurt. He grew up in France and Italy and has carried out research in the USA and Canada.

### **Iain Cameron**

Dr Cameron is head of Research Careers and Diversity at Research Councils UK (RCUK). He has a PhD in Virology from the University of Glasgow and held research positions in a university and a research institute prior to joining the UK Research Councils in 1990. Iain has a broad experience of research administration in a variety of roles in the Research Councils. He is currently responsible for co-ordinating research careers issues across the seven UK Research Councils and he is particularly active in the skills training area working with the UK Higher Education community. Iain also participates as a UK representative on European research careers networks and on advisory groups to the European Commission and DG Research.

### **Frank Gannon (Chair of the panel)**

Professor Gannon is the Director General of Science Foundation Ireland. Prior to that, he was the Executive Director of the European Molecular Biology Organisation (EMBO), and a Senior Scientist at the European Molecular Biology Laboratory (EMBL). He obtained his PhD in Leicester (UK) and has worked in research in Madison Wisconsin, Strasbourg France and Galway Ireland. His area of research is the control of expression of eukaryotic genes.

### **Reinhard Grunwald**

Dr. iur. Grunwald, LL.M. (Berkeley) is a partner of Weitnauer and Partners, attorneys at law in Munich, Berlin and Heidelberg. He is specialized on counselling start-ups, strategic realignments and evaluation. He teaches research management at Speyer Graduate School of Management Sciences (DHV) and is the Managing Director of the Zentrum für Wissenschaftsmanagement (ZWM) there. His former positions were Secretary General of Deutsche Forschungsgemeinschaft (DFG) from 1996 to 2007 and Member of the Board of Deutsches Krebsforschungszentrum (DKFZ) together with Harald zur Hausen from 1984 to 1996. He built up the German Primate Centre (DPZ) together with Hans-Juerg Kuhn and started his work as a research manager with the Max-Planck-Institute for Plasmaphysics (IPP) in 1974. European and international activities are since decades in the centre of his attention. He published on research management, international copyright law and bank liability.

### **Axel Horstmann**

Professor Horstmann is member of the executive management as head of the division „Humanities and Social Sciences“ of the VolkswagenStiftung in Hanover, Germany, and professor of philosophy at the University of Hamburg. He has a PhD in classical philology and completed his habilitation in philosophy. He is chairman of the board of trustees of the Hanns-Lilje-Stiftung, Hanover, and also engaged in advisory committees of other German foundations and institutions. He has published books and articles on classical philology,

history and theory of the humanities, especially on hermeneutics, as well as on history of ideas and the reception of classical antiquity in modern times.

### **Rüdiger Klein**

Dr. Klein is Executive Director of ALLEA, the European Federation of National Academies of Sciences and Humanities, based in Amsterdam. He has a PhD from the School of Oriental and African Studies of the University of London, and had lead a research centre on business and economic history of the Mediterranean region and the Middle East. Prior to his current position he was Senior Science Officer Research and Foresight and Deputy Head Humanities at the ESF (European Science Foundation, France). In his current and previous position he has been involved in numerous science and science policy activities, including work on benchmarking, evaluation and indicators.

### **Kari Kveseth**

Dr. Kveseth is the International Director at the Research Council of Norway. She has a PhD in chemistry from the University of Oslo. She has had different positions as director within the Research Council since 1986. She has broad experience in research and science policy organisations both as a member of boards and member of expert committees for targeted studies, assessments and evaluations. Her research and scientific publications are in the areas of experimental gas electron diffraction and environmental impact.

### **Gábor B. Makara**

Professor Makara is a former President of the Hungarian Scientific Research Fund(2003-2009) and Vice President, Committee on Ph.D studies. He is an M.D. from Semmelweis University, Budapest, a Ph.D and Member of the Hungarian Academy of Sciences. His experience includes accreditation in higher education in Hungary, research evaluation, and Ph.D. training in general. His scientific interest is in neuroendocrinology and studies of endocrine effects of stress.

### **Alexis-Michel Mugabushaka**

Dr. Mugabushaka is a Policy Analyst at the European research Council Executive Agency (ERCEA). Before joining the ERCEA, he was a Science Officer for corporate science policy at the European Science Foundation (ESF) in Strasbourg. In this capacity he oversaw science policy initiatives of the organisation and coordinated a Forum to exchange information and experiences in evaluation in research organisations across Europe. He previously held the positions of Officer for Statistics and Evaluation at the German Research Council (DFG) and Research Associate at the University of Kassel, Germany. He has a doctorate in applied social sciences in the area of higher education and science policy studies.

### **David Stonner**

Dr. Stonner was appointed as Head of the National Science Foundation Europe Office in Paris in 2007. He joined the NSF in 1991 and most recently served as Head of the Congressional Affairs Office. He was selected as a Congressional Science Fellow by the AAAS in 1982 and worked for a number of years on the staff of a Member of Congress. Earlier in his career he served as a program officer at the Office of Naval Research and as an assistant professor of psychology at Oakland University.

### **Josef Syka**

Professor Syka is the former President of the Czech Science Foundation. He has previously been a member of the Executive Board of the European Science Foundation, the Steering

Committee of the European Heads of Research Councils (EUROHORCs) and Director of the Institute of Experimental Medicine, Academy of Sciences of the Czech Republic. He is professor of physiology at Charles University in Prague; his area of research is auditory neuroscience. At the present time he represents his country at the High Level Group on Joint Programming EU in Brussels.

**Eero Vuorio**

Eero Vuorio is a Professor of Molecular Biology at the University of Turku, Finland. In 2003-2009 he worked as the Chancellor of the University. In 2010 he moved to Helsinki to become the director of Biocenter Finland. After receiving his M.D. and Ph.D. in Turku, he has worked at the University of Chicago, ETH-Zürich, and M.D.Anderson Cancer Center in Houston. He has chaired the Research Council for Health (Academy of Finland), the National Advisory Board for Research Ethics and the European Molecular Biology Laboratory (EMBL) Council, and has had various expert duties at the European Commission, European Research Council and European Science Foundation.

**Annex 2 Table 1: overview of FNP funding schemes (as of April 2010)**

programme	target group/career stage	objectives	fields of science	support offered	number of laureates
<b>GRANTS/SCHOLARSHIPS</b>					
<b>START</b>	PhD students, postdocs; age limit: 30 / 32	recognize achievements of young scientists and encourage them to devote their time entirely to their research.	All	Stipend: 24.000 PLN per year	106
<b>CONFERENCE GRANTS</b>	PhD students, postdocs; age limit: 35	allow young Polish scholars to participate in international symposia, conferences and congresses	All	Travel costs, conference fees	98
<b>KOLUMB</b>	Post-docs; age limit: 35 / 37	enable the best Polish young scholars to carry out their postdoctoral training in leading research centers worldwide	All	stipend: 2500-6000 euro, depending on the place of destination	11
<b>HOMING (PLUS)</b>	Post-docs; up to 4 years after the PhD	encourage the return of young Polish scientists from abroad, to facilitate their reintegration, and foster cooperation with their former host institutions or to attract young scientists of other nationalities to conduct their research in Poland	All	Grant up to PLN 80,000 per year; stipend: up to PLN 5,000 per month	16
<b>KWERENDA</b>	PhD holders, up to 6 years after the PhD	Archival work abroad	Humanities and social sciences	Case by case basis	18
<b>PARENT-BRIDGE</b>	RETURN GRANT: Female researchers with small children returning to research and SUPPORT FOR WOMEN : pregnant female researchers working under sensitive conditions	enable the best researchers who are raising young children to return to advanced research work and to enable pregnant women to conduct research projects financed from external sources.	All	RETURN GRANT : grant up to PLN 140,000 per year stipends for team members-SUPPORT FOR WOMEN : costs for buy-out for sensitive tasks	
<b>FOCUS</b>	Postdocs intending to intend to establish or consolidate own teams Number of years after PhD varies across research fields	support young scientists in obtaining independence, building research groups in the selected disciplines.	Topic set by the FNP every year	Grant for 3 years (100.000 PLN per year) personal stipend for the laureate, stipends for team members, and other costs	5
<b>TEAM</b>	leaders of research teams who intend to employ young scientists (students, PhD students and Postdocs (up to 4 year after PhD)	increase engagement of young scientists in research performed by the best teams and in the best laboratories in Poland.	Bio, info, techno	Personal stipends for the team members project duration 2-4 years	9
<b>IDEAS FOR POLAND</b>	Laureates of ERC Starting Grants.	encourage young, brilliant researchers from all over the world to choose Poland as the place to carry out their research projects submitted for the ERC competition	All	scientific scholarship for the winner - up to 10 thousand PLN per month	

<b>WELCOME</b>	Foreign researchers with at least PhD degree who plan to work in Poland or returning Polish researchers (specific conditions for those already in Poland apply)	engage outstanding researches from abroad in creating research teams in Poland and intensifying international cooperation of the Polish institutes and universities.	bio, info, techno	personal stipend for the laureate (200.000-350.000 PLN per year);stipends for the team members: Project duration: 3-5 years	2
<b>MISTRZ /MASTER</b>	Distinguished Polish scholars	intensifying ongoing research or undertaking new research directions and to support scientists who successfully combine their own research activity with educating the younger generation of scholars.	calls announced alternately in different domains	Subsidy of 100.000 PLN per year for 3 years): personal stipend of the laureate and funds he is free to dispose according to the needs	9

<b>INTERNATIONAL PhD PROGRAMME (MPD)</b>	consortia consisting of at least one Polish and one foreign research unit, that carry out common PhD projects	increase the level of research carried out in Poland performed by young scientists during the preparation of their PhD theses and intensifying international cooperation of the Polish research units.	All (with preferences for BIO, INFO, TECHNO)	Personal stipends for PhD students amounting to 3000 PLN a month (adjusted during foreign visits )	6
<b>ALEXANDER VON HUMBOLDT POLISH HONORARY RESEARCH FELLOWSHIP</b>	Outstanding German researchers	stimulate long-term co-operation between Polish and German scholars.	All	4000 euro per month	2
<b>EXTERIUS</b>	Scientific institutions and organizations as well as individual researchers and research teams	Flexible and swift support for the versatile scientific initiatives which cannot receive funding from other sources.	All	undefined	4
<b>RESEARCH FELLOWSHIPS FOR FOREIGN SCHOLARS</b>	Researchers from CEE countries, willing to conduct research at Polish scientific, regardless of age or career stage	enable and encourage scholars from CEE countries to conduct their reserach in Poland	All	stipends for the period of 1-12 months, the amount equivalent to avarage salary at the similar position in Poland	56

#### SCIENTIFIC PRIZES

<b>FNP PRIZE</b>	Polish scientists and foreigners who have lived and worked in Poland for at least 4 years or work on Poland related topics	appreciate scholars whose achievements and discoveries have made a significant contribution to spiritual life and progress of civilization in Poland	The prize is given each year in four research areas.	200.000 PLN	4
<b>COPERNICUS</b>	Established scientists currently engaged in Polish-German scientific cooperation; age limit: 65 years.	give a distinction to the individuals most active in Polish-German scientific cooperation who have made exceptional research achievements as a result of that cooperation and who have attained significant successes in promoting young research personnel.	All	The prize amounts 25.000 euro for each laureate. personal prize (10.000 euro) and funds for the cooperation, in	1 X 2

				particular - for support of young researchers	
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#### SUPPORT FOR PUBLICATIONS AND LIBRARIES

<b>MONOGRAPHS</b>	monographs by Polish authors in the humanities and the social sciences; or by foreign authors on Polish issues and in Polish language.	publish outstanding, previously unpublished monographs	Humanities and social sciences	FNP covers the publishing costs, including the author's royalties	11
<b>PUBLICATIONS PROGRAMME</b>	multi-volume works documenting Poland's historical, cultural and technological heritage	support multi- volume works of essential value for studies on Polish history and culture	Humanities and social sciences	Support to research institutes	nd
<b>FUNDS FOR LIBRARIES</b>	libraries, archives and other libraries possessing records of unique value for science or Poland's cultural heritage.	enable libraries and archives to access EU structural funds	Humanities and social sciences	on average : 40.000 PLN	2

#### FACILITATING TECHNOLOGY TRANSFER

<b>VENTURES</b>	Students, alumni, PhD students	increase the number of innovative projects realized by young researchers and encourage them to take up research projects which might result in practical application.	all the fields of science (preferences for those of the biggest impact on economy.)	Personal stipend: research grant: max 35.000 PLN per year; administrative costs	7
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#### SCIENCE POLICY ACTIVITIES

<b>CONFERENCES</b>	Invited scholars	Interdisciplinary discussion on the topics of importance to the Polish scientific community	In principle, in cooperation with a scientific societies	Travel costs: speakers fees	50-60 people
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N.B: Budget: funding for 2010, in PLN, Success rate: last call, Number of laureates: last call

## **Annex 3 List of documents reviewed by the panel and Feedback of representatives of the Polish research community**

The panel reviewed a set of documents by the Foundation for Polish Science which can be roughly divided in three sets:

### **A. Documents related to the FNP and its programme**

- (1) FNP and its programmes: general info, history and current programme; a self-assessment of the Foundation, describing the evolution of its programm portfolio.
- (2) FNP programme objectives 2008-2012 ; a short summary of the FNP strategic plan
- (3) Descriptions of the currently run FNP programmes (21 separate documents describing with the main characteristics of each programme and an overview presenting their typology)
- (4) Developing strategies to win the best for Poland: a report written by Professor Maciej Zylicz, President and Executive Director of the FNP on the FNP strategy in Polish and international context.

### **B. Documents describing the general landscape**

- (1) Science and Research Funding in Poland, a report prepared by the FNP which gives a general overview of the polish science system and identify its strengths and weakness.
- (2) Main Sources of Funding for Polish Researchers: a two sets documents providing an overview of various funding sources to which Polish can apply, both research and for the transfer of research results in marketable products.
- (3) Mobility of young Polish researchers, a study funded by the FNP
- (4) Higher Education development strategy In Poland to 2020, a report by the Gdansk Institute for market economics and Ernst& Young

### **C. Feedback of selected representatives of the Polish scientific community.**

FNP has asked selected selected representatives of Polish scientific community to provide their views on FNP activities by answering the three following questions:

1. How do you evaluate the Foundation's present activity in the context of the community's needs and the FNP's statutory capabilities?
2. What role should the Foundation play in the system for supporting scientists in Poland? (grants vs. scholarships, top-down or bottom-up approach, flexibility,

dispersal of resources or concentrating on selected research topics, groups of scientists, or needs of the science sector)

3. Suggestions on the FNP's offered range of programmes.

In addition, they could also make any other remarks they see relevant.

The review panel was provided the replies of the following representatives:

**Dr Artur Czapryn**

Nencki Institute of Experimental Biology, Dept. of Molecular and Cellular Neurobiology and President of the Scholarship Fellows of the Foundation for Polish Science

**Dr Nina Kancewicz-Hoffman**

Head of Humanities unit, European Science Foundation, Strasbourg, France

**Prof. Robert Hołyst**

Department of Physics, University of Warsaw, Laureate of FNP MISTRZ and TEAM programmes

**Prof. Katarzyna Chałasińska-Macukow,**

Rector, University of Warsaw

**Prof. Kazimierz Stepień**

Astronomy-Astronomical Observatory, University of Warsaw, Chairman of the Council for Science and Former chairman of the Council of the Foundation for Polish Science

**Prof. Tadeusz Luty**

Wrocław University of Technology, member of the board of the European University Association

**Prof. Tomasz Dietl**

Institute of Physics, Polish Academy of Science, Laureate of FNP PRIZE

**Prof. Wojciech J. Stec**

The Centre of Molecular and Macromolecular Studies, Polish Academy of Science, Vice president of the Polish Academy of Science, Laureate of FNP PRIZE

## **Annex 4 Short biographical notes of representative of Polish research community with whom the panel met at the meeting on 29/31 March 2010**

### **Professor Jerzy Szwed**

Under Secretary of State in the Ministry of Science and Higher Education. Specialist in the field of theoretical physics. From 2002 through 2003 he was the dean of the Faculty of Mathematics, Physics and Chemistry of the Jagiellonian University and since 2005 - the dean of the Faculty of Physics, Astronomy and Applied Computer Science. He was the head of FP5 European Centre of Excellence COPIRA and has authored 60 scientific publications.

### **Professor Michał Kleiber**

president of the Polish Academy of Science since 2007. Specializes in mechanics and informatics. Authored or co-authored over 240 research papers. Foreign fellow of Austrian Academy of Science and fellow of European Academy of Science and Arts in Salzburg. In 1998 – 2001 represented Poland in Board of Governors of EU Joint Research Centre and in the *Steering Committee* “sustainable development” of 5FP. In years 2001 – 2005 was the Minister of Science and the President of the State Committee for Scientific Research. In 2006 was chosen for a member of European Research Council. A member of Programme Council of The Polish Lisbon Strategy Forum. He is a member of ESF Governing Council and Laureate of the FNP Prize in 2001.

### **Professor Katarzyna Chałasińska-Macukow**

Rector of the University of Warsaw since 2005, and President of the Conference of Rectors of Academic Schools of Poland (CRASP) since 2008. Specializes in the field of Division of Information Optics. Member of Standing Committee for Physical and Engineering Sciences (PESC - ESF) and member of Board of Directors of International Society for Optical Engineering 2010-2012.

### **Professor Tadeusz Luty**

professor of chemical engineering and physical chemistry. Authored of 130 publications and supervised 6 PhD students. In 1987-93 was the Vice Rector for Academic Affairs at the Wrocław University of Technology. He has organized and directed the first Centre for Advanced Materials and Nanotechnology in Poland. In 2002-2008 he was the Rector of Wrocław University of Technology. He was also the President of the Conference of Rectors

of Academic Schools in Poland (CRASP). He is a member of the Board of the European University Association (EUA).

**Professor Jerzy Duszyński**

biologist from the Nencki Institute of Experimental Biology. For many years he was the President of Scientific Council of the Institute and its director. In 2008-2009 he was a Deputy Secretary of State in the Ministry of Science and Higher Education.

**Professor Jerzy Langer**

professor at the Institute of Physics at the Polish Academy of Sciences. Member of the Board of Academia Europaea, Fellow of the American Physical Society and Honorary Vice President of Euroscience. For 5 years was the key advisor to the President of Polish Academy of Sciences and then in 2005 was a Deputy Minister of Science. Served in major science advisory bodies to the EC (EURAB, ISTAG and Governing Board of the JRC) and co-authored several major European policy documents related to the ERC, ERA. Co-assessed 6<sup>th</sup> Framework Program and has authored about 250 research papers. He supervised 13 PhD students, of whom 6 became already full professors.

**Professor Stefan Jackowski**

mathematician, professor of the Faculty of mathematics, Informatics and mechanics of the University of Warsaw; president of the Polish Mathematical Society; Member of the board of editors of Algebraic & Geometric Topology , Fundamenta mathematicae, Journal of Homotopy and Related Structures. He coordinated the team which prepared “Higher Education Strategy for Poland 2020”.

## **Annex 5 Members of the Council and the Executive Board of the FNP and staff members with whom the Panel met at the meeting on 29/31 March 2010**

### ***Management Board:***

Professor Maciej Zylicz

Professor Prof. Włodzimierz Bolecki

Dr. Tomasz Perkowski

### ***Council of the Foundation:***

Professor Prof. Andrzej Członkowski

Professor Prof. Maciej Grabski

Professor Prof. Ewa Kotowska

Professor Prof. Andrzej Jerzmanowski

Professor Prof. Marek Świtoński

### ***Staff:***

Marta Łazarowicz-Kowalik

Michał Pietras

Jakub Wojnarowski