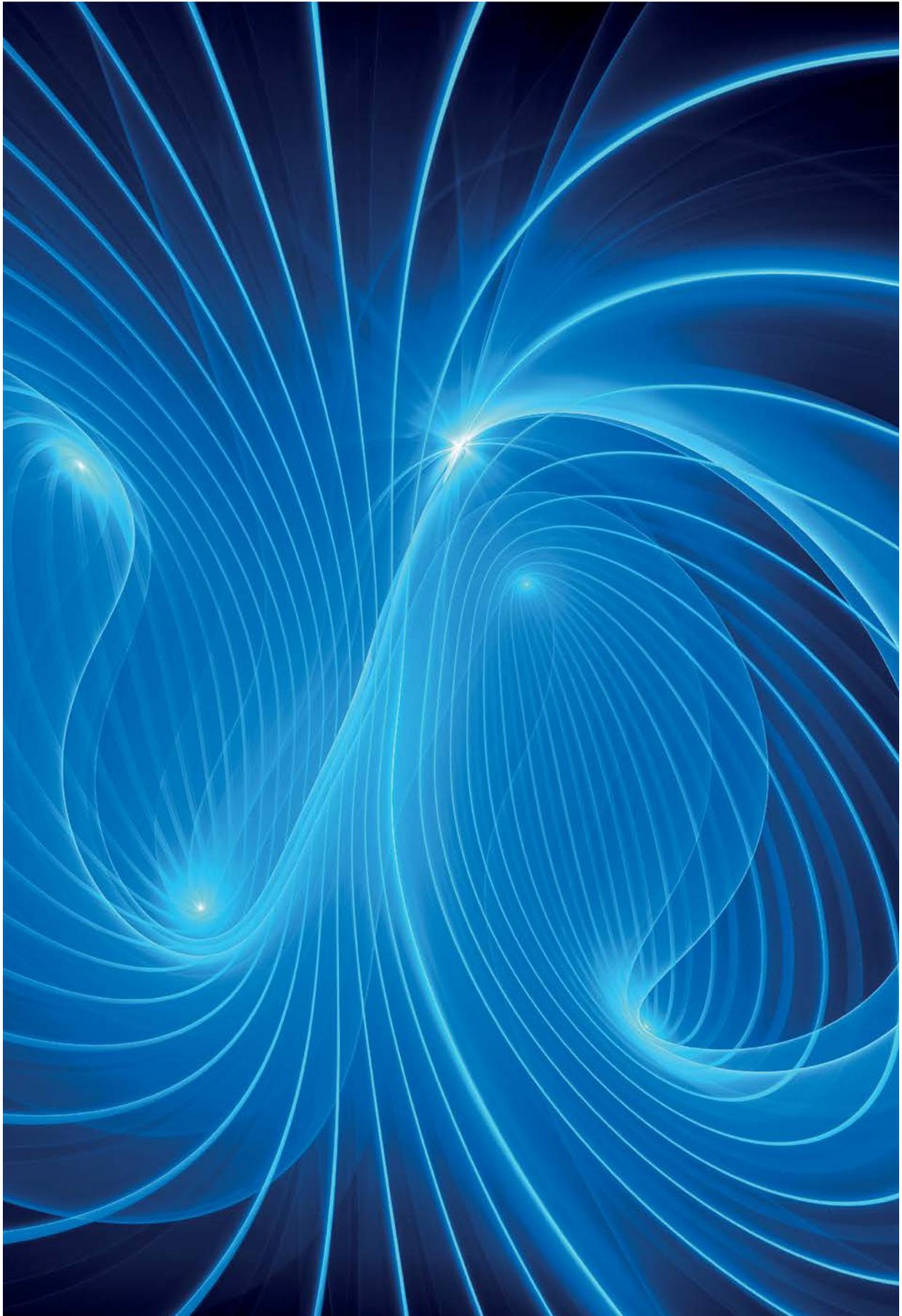




CZECH SCIENCE
FOUNDATION
ANNUAL REPORT 2017

... from curiosity to discovery



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1 FOREWORD BY THE PRESIDENT

For the Czech Science Foundation (hereinafter the "GACR"), year of 2017 was influenced by the changes in the Presidium which had already occurred at the end of 2016. The change in the Presidium was completed in January 2017 when doc. RNDr. P. Baldrián, Ph.D. was appointed. GACR was handed over to the new Presidium in a stabilised condition with well-functioning advisory bodies and the GACR Office. The Presidium instantly started to deal with matters that arose from the academic community.

At the turn of the year, GACR faced criticism from the Supreme Audit Office regarding the lack of support towards oriented research. However, the law No. 130/2002 Coll. on Support of Research, Experimental Development and Innovation from public funds and amending certain related laws implies that GACR should finance basic research which is not primarily concentrated on the practical implementation. This disapproving statement has been supported not only by the scientific community, but also by the Czech Academy of Sciences, the Research, Development and Innovation Council and the Government of the Czech Republic. This led GACR to carry out a statistical analysis of the project outcomes for the year of 2016 and the results stated that 76 % of principal investigators referred in their final reports to some priorities of the applied research. This result proves that GACR does support oriented research however it does not support it directly. Nevertheless, in accordance with the law, referring to applied research cannot and should not be used as a criterion for the project evaluation.

Due to the coming end of current excellence projects funding in the year of 2018, the Presidium commenced preparation of a call for newly defined category of excellence projects where, the thus far gained, experience from the existing projects could be applied. In cooperation with the GACR Office, GACR carried out a pre-evaluation process of this coming tender and prepared a concept of new category of excellence projects. This new concept contains various changes in comparison with the current projects. The Presidium considers the key aspects to be, for instance, that the projects will be evaluated primarily by international panels and also the condition that during or at the end of the grant project, the drafter or team member apply to

the calls announced by the European Research Council. This condition should help in rising the number of proposals which currently stands below the European average. The Government of the Czech Republic approved this new concept in October 2017 and first call could be launched in May 2018. With regards to the allocated resources, the Presidium assumes financing 60-70 of these prestigious excellence projects in the first year of the grant project.

At the beginning of 2017, significant changes in the composition of the evaluation panels took place. Due to the end of their mandates, almost half of the evaluation panel members were altered. The end of the mandate in the Supervisory Board for Prof. PhDr. Jana Geršlová, CSc. meant that for the period from April until December, she was altered by Prof. Ing. Marie Režňáková, CSc. Professor Geršlová returned to this position once being appointed by the Research and Development Council and the Government of the Czech Republic.

On 21 September 2017, the GACR President's Prize was awarded to the best projects that concluded in 2016. The selection of the best projects becomes harder and harder every year due to the high standard of competition. For the first time ever, five awards were given this year. The winners were three female scientists and two male scientists – Mgr. Orlitová, Ph.D., Mgr. Gabriela Blažková, Ph.D., Dr. Ing. Michaela Rumlová, Prof. Ing. Jiří Kopáček, Ph.D. and Prof. Ing. Lukáš Sekanina, Ph.D. Two of the awards were awarded to the scientists of postdoctoral projects. These principal investigators have succeeded in huge competition of standard project principal investigators even though they are at the start of their careers. For the future, the Presidium decided to consider reintroducing the post-doctoral projects which were closed several years ago.

The GACR representatives were involved in series of international activities organised by the Science Europe, Global Research Council and attended other various domestic and foreign meetings, workshops and discussions. For instance, the President attended a meeting and a workshop organised by Science Europe in Brussels and Berlin as well as Global Research Council meeting in Ottawa and Global Research Council meeting

in Stockholm. The topics discussed at above mentioned meetings included questions regarding “open science”, “peer review” evaluation of scientific results and so on. In September 2017, the presidents of grant agencies from five Central European countries accompanied by the representatives of the Offices from the international departments of their respective agencies came together in Ljubljana to agree on joint cooperation. The cooperation could result in multilateral cooperation, strengthening the influence of science foundations of the mentioned countries inside of Europe. During the year of 2017, Slovakia, Croatia and Switzerland joined Slovenia, Austria, Hungary, Poland and the Czech Republic – the founder countries of Central Europe Initiative. On 4–5 April 2018, GACR held a meeting of representatives of above mentioned countries in Prague.

The Presidium of GACR established cooperation with the Technology Agency of the Czech Republic. It has been proven that some of the GACR’s successfully completed projects could, in the future, have a potential in applied research. In such cases the applicants will be informed about the possibility of applying to tenders of the Technology Agency of the Czech Republic. Such applicants will not only receive the basic information about the tender but their projects could also possibly be further developed within the tenders of the Technology Agency of the Czech Republic.

On 27–28 November 2017, an external meeting of the Presidium was held in Loučeň in the Czech Republic. GACR Presidium and the heads of the individual sections of the GACR Office met with the Deputy Minister for Science, Research and Innovation Mgr. Arnošt Marks, Ph.D. and his deputy Ing. Lucie Orgoníková, representatives of the Council of Universities, Czech Rectors Conference, Czech Academy of Sciences, the European Research Council, Technology Agency of the Czech Republic, GACR discipline committees, Scientific Advisory Board and Supervisory Board. The representatives of the Czech Academy of Sciences and Universities presented suggestions which could ease the workload for the grant applicants of GACR. Positive news for all the parties involved is that some of the suggestions have already been, on the Presidium’s initiative, incorporated into the tender documentation for calls of 2018. Other suggestions will require longer preparation and will be discussed by the Presidium.

In December 2017, a meeting between the GACR Presidium members and the members of international advisory board of Research & Development Council was held. GACR was pleased by their statement that, in comparison with other providers of targeted support in the Czech Republic, GACR is performing very well. The international Research and Development Council has previously stated other suggestions which could be taken into consideration by the Presidium and the GACR Office. These suggestions were thoroughly discussed at the meeting and it was concluded that some of the suggestions had been successfully settled and some require an amendment to the law. The Presidium asked the international advisory board for support in advising the Ministry of Finance to consider, during planning of the GACR’s longer-term budget, that GACR has to plan its activity for several years ahead.

Towards the end of 2017, a change in the GACR Statute, which could enable establishment of an international advisory board of GACR, was proposed. The main tasks of this international advisory board include plan formulation of the strategic development of international cooperation and concept preparation of new grant projects. This Statute is currently awaiting an approval by the Government of the Czech Republic.

The evaluation of the proposed projects in comparison with previous years occurred without any significant changes. Compared to the year of 2016, the success rate of grant acquisition was lower in case of the standard and junior projects, around 27 %. In neighbouring countries, the success rate of grant acquisition is very similar. In this context it needs to be noted that the success rate depends on the number of grant applications and the allocated budget for the current year. Therefore, the success rate could not significantly be influenced by the Presidium or the GACR Office.



RNDr. Alice Valkárová, DrSc.
President of the Czech Science
Foundation

2 BASIC INFORMATION

The Czech Science Foundation (hereinafter the “GACR”) is an independent public organisation supporting basic research in all scientific disciplines from public funds. Since its establishment in 1993, GACR provides financial support for both experienced and young and early-stage researchers based on the Calls for Proposals approved by the Government of the Czech Republic (hereinafter the “Government”). Moreover, it also funds international research projects.

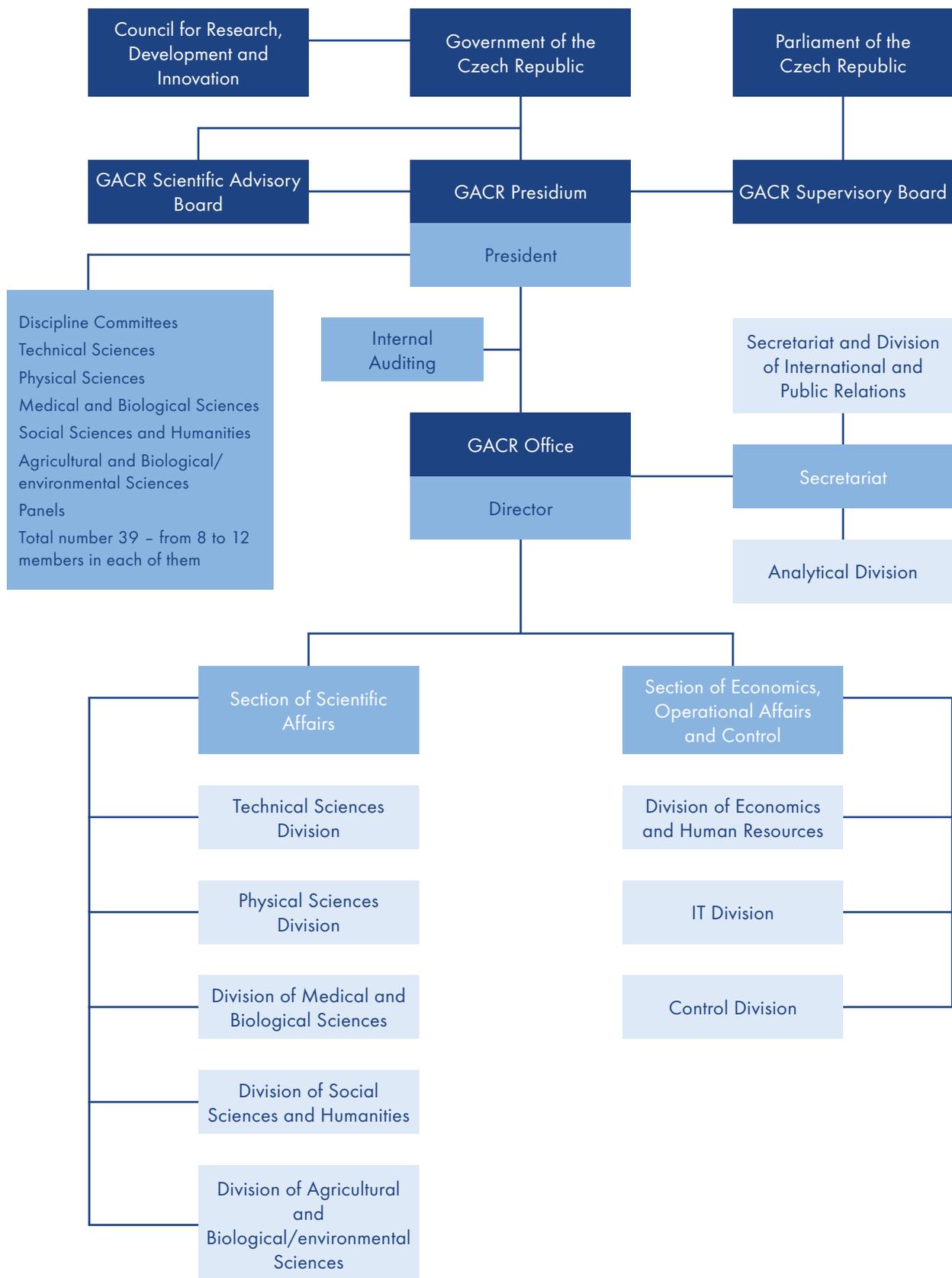
GACR is the only institution in the Czech Republic which provides public funding exclusively for basic research projects. Its activity is regulated by Act No. 130/2002 Coll., on Support of Research, Experimental Development and Innovation from public funds and amending certain related laws (hereinafter the “Act on Support of Research, Development and Innovation”). GACR independently manages targeted and institutional resources allocated directly from the state budget.

GACR provides financial support for basic research across the entire range of scientific fields. The scientific fields are divided into five following domains: Technical Sciences, Physical Sciences, Medical and Biological Sciences, Social Sciences and Humanities, Agricultural and Biological-Environmental Sciences.

Main GACR objectives are:

- to provide financial support for basic research projects at an international level via public tender in research and development
- to promote and further expand international scientific cooperation in basic research
- to contribute in creation of attractive conditions for the career development of young and early-stage researchers
- to ensure that the entrusted state funds are used most effectively for the benefit of the Czech scientific community
- to inform scientific community and general public about its activities and plans

Scheme 1: Organisational structure



3 GACR AUTHORITIES AND OFFICE

GACR authorities are represented by the President, Presidium, Scientific Advisory Board and Supervisory Board. The GACR Office is the organisational and administrative body of GACR.

3.1 PRESIDENT

President of GACR (hereinafter the "President") represents the organisation externally and acts on its behalf in all matters. The main activity of the President is the management of GACR Presidium which is the executive body of GACR.

The President regularly attends the Scientific Advisory Board meetings and most of the Supervisory Board meetings. Moreover, the President participates in meetings of the Parliamentary Committee on Science, Education, Culture, Youth and Sport of the Chamber of Deputies of the Parliament of the Czech Republic (hereinafter the "Chamber of Deputies") for the budget proposal negotiations and the final account of the GACR budget chapter.

3.2 PRESIDIUUM

GACR Presidium (hereinafter the "Presidium") is the executive body of GACR. Its role and position is defined by § 36 para. 5 of the Act on Support of Research, Development and Innovation. The Presidium is authorized to approve calls for proposals, to award grants, present proposals of the GACR Statute and its changes together with the GACR budget proposal to the Government for approval. Moreover, the Presidium is responsible for coordination of the discipline committee, advisory bodies of GACR, which evaluate the project proposals.

The Presidium consists of five members including the President. Members of the Presidium are appointed for four years with the possibility of two consecutive terms at maximum. The Presidium members are appointed and recalled by the Government on the basis of Research, Development and Innovation Council's (hereinafter the "R&D") proposal.

The composition of Presidium in the year of 2017:

- **RNDr. Alice Valkárová, DrSc.**
(President; first term of office) – Physical Sciences
- **Prof. Ing. Stanislava Hronová, CSc., dr. h. c.**
(Vice-president; first term of office) – Social Sciences and Humanities
- **Prof. Mgr. Jana Roithová, Ph.D.**
(first term of office) – Technical Sciences
- **Prof. RNDr. Jaroslav Koča, DrSc.**
(first term of office) – Medical and Biological Sciences
- **doc. RNDr. Petr Baldrián, Ph.D.**
(first term of office) – Agricultural and Biological-Environmental Sciences

The fundamental activities of the Presidium arise from the project evaluation schedule which covers evaluation of the new submitted grant project proposals as well as the evaluation of on-going and completed projects.

Below are the main points which were discussed or approved at the Presidium's meetings during given period.

In January 2017, the Presidium commenced discussion regarding the future form of the excellence projects after the year of 2018. For this reason, the Presidium carried out a pre-evaluation of the current success rate of the excellence projects. The focus of the pre-evaluation was primarily on the quality of published results and the level of cooperation between involved institutions. Afterwards the Presidium outlined main features of the planned new group of grant projects and continued to specify the concept throughout the entire year. In May 2017, a preliminary draft was submitted to the Scientific Advisory Board and R&D Council for approval. After successful approval, the document was submitted to the Government for further approval which formally confirmed the EXPRO excellence projects on 22 May 2017.

In accordance with the discipline committees working groups' proposal, the Presidium appointed new panel members with the effect from 1 April 2017 and at the same time appointed the new chairs and the vice-chairs of

discipline committee 1–5. Throughout the year, the Presidium approved agenda modification of some of the panels, in particular agenda of discipline committee 1, 3 and 4.

Proposed grant project changes were discussed and approved at each Presidium's meeting. In April, results of the progress and final reports evaluation by the discipline committees were approved. The Presidium was regularly informed about the results of the financial checks of the use of allocated funds by the beneficiaries.

In public tenders announced in 2017, GACR received 2,048 proposals in total. After the evaluation of proposals by expert panels and discipline committees, the first phase of evaluation was approved in June 2017.

The Presidium decided on the amendment of GACR's methodical materials by adding following explicit information:

- The large research infrastructures and foreign grant agencies project dedication is no longer considered as a multi dedication.
- The future tender documents will contain an explicit statement that one of the project proposal evaluation criteria includes students and doctoral participation in the project. There will no longer be a condition to include their names in the proposal.

On the basis of discipline committees' proposals, the Presidium decided on the GACR President's Prize awards.

In July 2017, SciVal database contract validation, used during the foreign expert selection, ended. The Presidium decided on tendering procedure which would ensure secure public tenders and foreign expert selection in year of 2018.

Throughout the year, the Presidium participated in various meetings with R&D Council members, Deputy Prime Minister Pavel Bělobrádek and his deputy A. Marks as well as members of the Czech Academy of Sciences (hereinafter the "CAS") and Technology Agency of the Czech Republic (hereinafter the "TACR").

In November 2017, the Presidium approved cooperation establishment with vedavyzkum.cz portal.

During various meetings, the Presidium discussed public tender drafts for the year of 2019 and proposed an amend-

ment of the GACR Statute which was submitted to the Government and R&D Council for approval. The role of foreign expert body is primarily specified in this new Statute.

On the basis of expert bodies recommendations, the Presidium in Autumn 2017 decided to finance 548 standard projects, 68 junior projects, 20 international projects in cooperation with Deutsche Forschungsgemeinschaft (DFG), Ministry of Science and Technology (MOST) and National Research Foundation of Korea (NRF). Furthermore, the Presidium decided that no other standard projects will be funded and the potential financial gap will be used on projects in coming years.

On 14 December 2017, the Presidium participated in the meeting of the international advisory board of the R&D Council. The main discussion focused on suggested changes that were outlined by Professor Michl in his letter to the R&D Council.

In 2017, a total of 10 Presidium meetings took place including one external meeting.

3.3 SCIENTIFIC ADVISORY BOARD

The Scientific Advisory Board (hereinafter the "SAB") is a conceptual body of the GACR. Its activities are governed by § 36 para. 3, 6 of the Act on Support of Research, Development and Innovation. SAB's scope is determined by its Statute approved by the Presidium. In accordance with the Statute, the SAB's main tasks are:

- to propose the discipline committees composition and their focus
- to propose grant project groups and their fields
- to evaluate the GACR's contribution to the development and quality of basic research in the Czech Republic
- to discuss and submit problem solving proposals related to the GACR's activities
- to comment on GACR's international cooperation and facilitate its development

The SAB consists of 12 expert members representing different scientific disciplines. Members are appointed for four years with the possibility of two consecutive terms at maximum.

Since 22 December 2014, the SAB acts in the following composition:

- **Prof. Ing. Zdeněk Bittnar, DrSc.**
(chair)
- **Prof. MUDr. Tomáš Zima, DrSc., MBA**
(vice-chair)
- **Prof. Ing. Jana Hajšlová, CSc.**
- **Prof. RNDr. Václav Hampl, DrSc.**
- **Prof. RNDr. Jan Hanousek, CSc.**
- **Prof. RNDr. Jan Kratochvíl, CSc.**
- **Prof. PhDr. Jiří Kuthan, DrSc., dr. h. c.**
- **Prof. Ing. Jiří Málek, DrSc.**
- **Prof. RNDr. Bedřich Moldan, CSc.**
(Mandate ended in October 2017)
- **doc. RNDr. Vojtěch Petrůček, CSc.**
- **Prof. PhDr. Jan Sokol, CSc., Ph.D.**
- **Prof. MUDr. Julius Špičák, CSc.**

During the course of 2017, four SAB meetings took place, specifically on 28 February, 12 May, 9 October and 19 December.

The main topics discussed at the meetings included the preparation of the new group of grant projects which will replace the current excellence projects. SAB approved the launch of the EXPRO projects at the May meeting. The new group of project grants should reflect the request, raised by the Office of the Government, to prevent misusing of the targeted and institutional funding.

SAB has claimed strong objections against the conclusion of the Supreme Audit Office regarding the low support of applied research. The GACR activities and competencies must stay within the scope defined by § 36 of Act on Support of Research, Development and Innovation. In accordance with this Act, GACR is not authorised to make science policy. GACR cannot direct financial resources for activity that is neither defined by the Czech law nor approved by the Government.

3.4 SUPERVISORY BOARD

The Supervisory Board (hereinafter the "SB") is the auditing body of GACR, which was set up by Act No. 110/2009 Coll., replacing the Act on Support of Research, Development and Innovation, in accordance with

§ 36, para. 7 of this Act. The main tasks of the SB consist of financial supervision of GACR, discussing and dealing with complaints about violation of the conditions of a Call for proposals in awarding grants, participating in improving the current mechanism of targeted support of scientific projects in the Czech Republic. If required, the SB may propose statements to the Presidium which then become obligatory.

The SB should consist of ten members which are appointed and recalled by the Parliament of the Czech Republic. Members are appointed for four years with the possibility of two consecutive terms at maximum. The SB submits the annual report about its activity to the Chamber of Deputies twice a year.

The SB members until 3 April 2017:

- **Prof. PhDr. Jana Geršlová, CSc.** (chair)
- **Prof. Ing. Mária Režňáková, CSc.** (vice-chair)
- **Prof. Ing. Rostislav Drochytka, CSc.**
- **Prof. Ing. Ladislav Jakl, CSc.**
- **Prof. Mgr. Libor Jan, Ph.D.**
- **doc. JUDr. Věra Kalvodová, Dr.**
- **Prof. Ing. Petr Konvalinka, CSc.**
- **Prof. Ing. Jan Roda, CSc.**
- **Prof. RNDr. Omar Šerý, Ph.D.**
- **Ing. Mirka Wildmannová, Ph.D.**

The SB members since 19 November 2017:

- **Prof. PhDr. Jana Geršlová, CSc.** (chair)
- **Prof. Ing. Mária Režňáková, CSc.** (vice-chair)
- **Prof. Ing. Rostislav Drochytka, CSc.**
- **Prof. Mgr. Libor Jan, Ph.D.**
- **Prof. JUDr. Věra Kalvodová, Dr.**
- **Prof. Ing. Petr Konvalinka, CSc.**
- **Prof. Ing. Jan Roda, CSc.**
- **Prof. RNDr. Omar Šerý, Ph.D.**
- **Ing. Mirka Wildmannová, Ph.D.**

On 3 April 2017, the mandate of PhDr. Jana Geršlová, CSc. and Prof. Ing. Ladislav Jakl, CSc. expired. Prof. PhDr. Jana Geršlová, CSc. was elected by the Chamber of Deputies as a member of SB on 7 June 2017. On 19 November 2017, Prof. PhDr. Jana Geršlová, CSc. was once again elected as a chair of the SB. Prof. Ing. Mária Režňáková, CSc. was the SB vice-chair since 3 April 2017 until 19 October 2017.

SB handled in total 21 complaints about the grant project proposal evaluation, as well as evaluation of progress and final reports. SB expressed disagreement with the Supreme Audit Office conclusion regarding the lack of support towards oriented research.

SB members attended individual panels and discipline committee meetings to supervise their activity.

3.5 GACR OFFICE

In accordance with the GACR Statute, the GACR Office (hereinafter the "Office") is responsible for the delivery of technical, economical, supervisory, organisational and administrative tasks as required. The Office also takes care of communication with outside subjects. The Office is managed by the Director who is appointed and recalled by the President. The Office consists of the Section of Scientific Affairs, Section of Economics, Operational Affairs and Control and Secretariat. The Division of Internal Auditing is subordinated directly to the President.

GACR Secretariat is further divided into the Division of Secretariat and International Affairs and Public Relations and Analytical Division. The main responsibilities of the Secretariat and Division of International and Public Relations include providing an administrative support for the Office, President, Presidium and SAB. It is also responsible for relations with external subjects, both at national and international level, publicity and presentation of GACR activities. Analytical Division ensures database administration, as well as publication and announcement of calls for proposals and drafts of guidelines. It operates a call centre and other information channels.

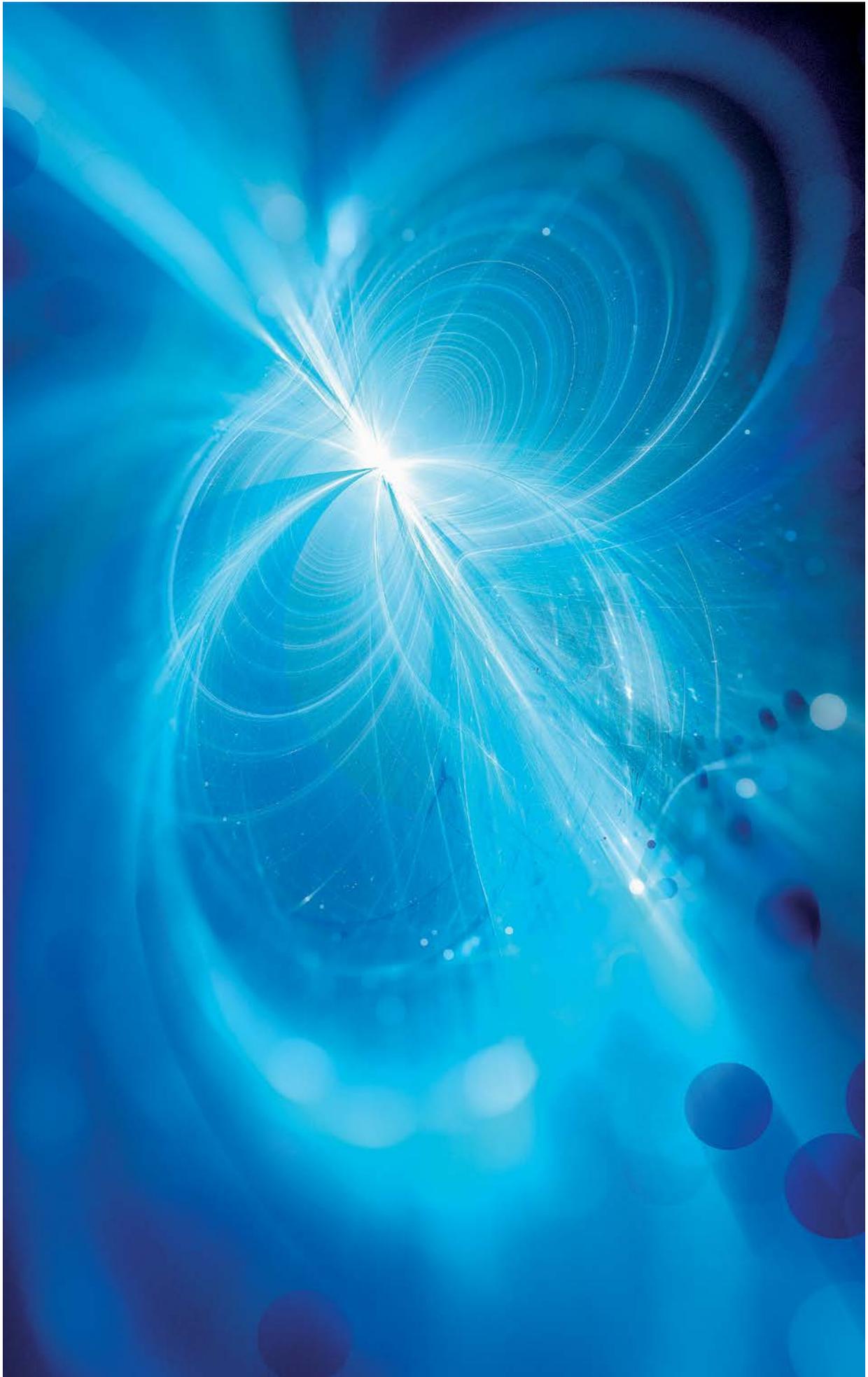
Section of Economics, Operational Affairs and Control consists of Division of Economics and Human Resources, IT Division and Control Division. Division of Economics and Human Resources ensures the GACR accounting, provision of funds to the GACR projects and their supervision. It prepares a GACR draft budget and deals with human resources. The IT Division's main tasks are operation and service of the GACR computer network, development, operation and service of the GACR database and information system together with the email correspondence. Control Division monitors the economic effectiveness, compliance with legal regulations and regulation on the side of the grant recipi-

ents and the compliance with the GACR Statute and other binding documents.

Section of Scientific Affairs is divided into Technical Sciences Division, Physical Sciences Division, Division of Medical and Biological Sciences, Division of Social Sciences and Humanities and Division of Agricultural and Biological-Environmental Sciences. They ensure the evaluation process of submitted project proposals and prepare background materials for the Presidium, the discipline committees and panels. They also deal with the agenda of ongoing and completed projects.

3.6 INTERNAL AUDIT

The internal audit is ensured by an independent and organisationally separated employee which, apart from audit and further supervision, is also responsible for communication with the heads of GACR. The responsibility and pursuit of all the activities from internal audit is explicitly stipulated in GACR's Internal Code of Conduct.



FINANCIAL SUPPORT OF GRANT PROJECTS

4

At the beginning of this chapter, we would like to mention that all the data sources used in the document are derived from our own calculation, updated for 23 May 2018.

The total approved budget for the year of 2017 was 4,257,427,000 CZK with no income being planned. GACR's expenditures are divided into institutional and targeted expenditures. The institutional expenditures are intended for GACR's operation including an assurance of the calls of proposals, the evaluation of project proposals, monitoring of on-going projects and further work related to the administration. The targeted expenditures are intended for grant projects. In 2017, the GACR's institutional expenditures were 109,783,000 CZK, representing 2.58 % of the total GACR's financial means. In 2017, the GACR's targeted expenditures approved by the State Budget Act of the Czech Republic were in total 4,147,644,000 CZK. The financial support for on-going projects was

2,675,586,000 CZK, representing 64.5 % of the total targeted financial means. The amount of 1,472,058,000 CZK was planned for the starting projects, representing 35.5 % of the total GACR's targeted expenditures.

In 2017, GACR distributed financial means for these types of projects:

- financial means for standard projects
- financial means for international projects
- financial means for projects of excellence in basic research
- financial means for international projects evaluated on the basis of Lead Agency principle
- financial means for junior projects

The allocation of targeted support according to individual project groups may be seen in the following Table 1.

Table 1: Approved targeted expenditures of GACR according to project groups in 2017

Project Groups	Approved targeted expenditures of GACR (in thousands CZK)	Distribution of targeted expenditures (in %)
Standard projects	3,078,241	74.2
Bilateral projects	103,824	2.5
Support of excellent research projects	483,479	11.7
Lead agency projects	72,100	1.7
Junior grants	400,000	9.6
Projects on the ERC support	10,000	0.2
Total	4,147,644	100

In accordance with § 10 par. 2 of Act on Support of Research, Development and Innovation, GACR provides support for grant projects upon the grant funding decision and after the conclusion of the contract with the beneficiary. In case the beneficiary, respectively co-beneficiary, is the state organisation, the transfer of funds is carried

out by the financial arrangements made by the Ministry of Finance of the Czech Republic. Funds intended for the beneficiary, respectively co-beneficiary, are transferred through the budget of the respective authority. Other recipients receive targeted funds through direct transfer from the provider's account to the beneficiary's bank account.

GACR PROJECTS IN 2017

Public tenders in various stages took place during the monitored period. In particular, there was a public tender announced and evaluated in 2016 for grant project onset in 2017 and public tenders announced in 2017 with the anticipated launch of projects in 2018.

On 15 February 2016, GACR announced a public tender for standard, junior and international grant projects with an expected project launch on 1 January 2017. The tender period began on the next day and ended on 30 March 2016. The joint call for the submission of bilateral Austrian-Czech projects of basic research evaluated on the principle of Lead Agency with project launch on 1 January 2017 was announced at the beginning of 2016. The beginning of the period for submission of proposals was 14 January 2016 and the deadline was 18 March 2016. In all public tenders announced in 2016, GACR received 2,572 proposals, of which 46 proposals did not meet the prescribed requirements and were rejected, (1.8 %). The number of successful grant projects in public tenders announced in 2016 with project launch in 2017 was 823, of which it was decided to finance 698 standard projects, 97 junior projects, 16 international projects (10 projects in cooperation with the German organisation DFG, 3 projects in collaboration with the Taiwanese organisation MOST and 3 projects in cooperation with Korean organisation NRF) and 12 international projects evaluated on the principle of Lead Agency.

Public tender for standard, junior and international grant projects with expected project launch on 1 January 2018 was announced on 21 February 2017. The joint call for the submission of bilateral Austrian-Czech projects of basic research with the launch of projects on 1 January 2018 was neither announced by GACR nor FWF. In all public tenders announced in 2017, GACR received 2,408 proposals of which 9 were not accepted due to failure to meet the conditions of the public tender proposals and 7 in total did not meet the prescribed requirements and were rejected, 0.3 %. The number of successful grant projects in public tenders announced in 2017 with project launch in 2018 was 636, of which it was decided to finance 548 standard projects, 68 junior projects, 20 international projects (14 projects in cooperation with

the German organisation DFG to the date of 23 May, 2018, 4 projects in collaboration with the Taiwanese organisation MOST and 2 projects in cooperation with Korean organisation NRF).

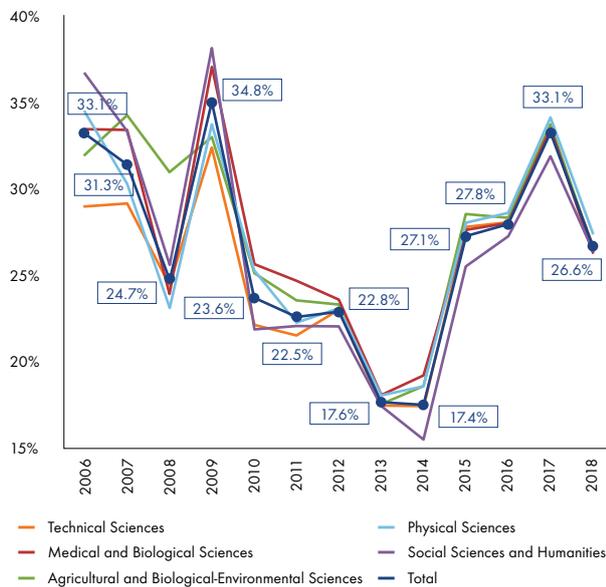
5.1 STANDARD PROJECTS

GACR has supported this type of projects since its foundation in 1993. The duration of projects is 2–3 years. They include all scientific fields of basic research. The topic of a project proposal is determined by the drafter. A natural or a legal person together with organisational unit of the State or self-governing territorial unit, organisational unit of the Ministry of Defence or Ministry of the Interior active in research and development is eligible for funding. Projects are implemented by single or several principal investigators from one or more institutions. The Call for Proposals is announced annually, usually in February. The evaluation process lasts until autumn and the results are usually announced before year-end. A project proposal is accepted providing that all conditions stated in the Act on Support of Research, Development and Innovation and in the guidelines for standard projects are fulfilled. The main evaluation criteria of project proposals are quality and originality of the project proposal, the drafter's previous research and publication record, expected outputs, and eligibility of costs.

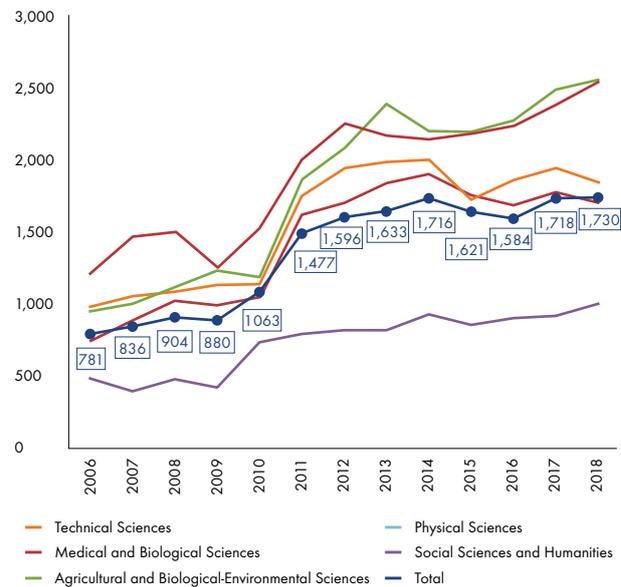
In public tender announced in 2016, GACR received 2,129 proposals of standard grant projects, of which 5 proposals were not accepted due to failure to meet the conditions of the public tender, 10 project proposals were excluded and 3 candidates withdrew from the contest. In comparison with the previous year there was a significant increase in accepted proposals. Based on the recommendation of the advisory bodies and on the general consensus, the Presidium at its meeting held on 21 November 2016 decided to finance 698 standard projects. After the allocation of funds, the Presidium decided at its meeting on 21 February 2017, not to fund the additional standard projects (supported from cash reserves). The success rate of standard projects with the project launch in 2017 has risen significantly since 2009 representing 33.1%.



Graph 1: Success rate development of standard projects with the project launch in the years 2006–2018



Graph 2: Average costs development of standard projects in the first year in the years 2006–2018, in thousands of CZK



In public tender to support standard projects announced in 2017, GACR received a total of 2,067 project proposals. Out of these proposals, 4 were not accepted because of failure to meet the conditions of the public tender and 1 was rejected from the contest. Of 2,062 evaluated standard project proposals, most of them were from the field of Social Sciences and Humanities (689 proposals), the second largest group was from the field of Physical Sciences with 417 proposals. Technical Sciences had 357 proposals, Agricultural, and Biological-Environmental Sciences had 303 project proposals and the lowest number of submitted proposals was 296 proposals for projects of Medical and Biological Sciences. When taking into account the distribution of project proposals by the candidates, GACR evaluated 1,268 project proposals from universities, 662 project proposals from institutes of the Academy of Sciences, 87 project proposals from the category of others (hospitals, libraries, museums, state institutes other than CAS) and 45 project proposals from private category (individuals, limited liability companies, joint stock companies, private universities, charitable organisations).

Based on the recommendation of the advisory bodies and the general consensus, the Presidium at its meeting on 27 November 2017 decided to finance 548 stand-

ard projects. The success rate of standard grant projects beginning in 2017 was 26.6 % which compared to last year represents a decrease of more than 6.5 %. Over the monitored period, the lowest success rate was recorded in 2013 and 2014, see the Graph 1.

In a public tender for standard projects announced in 2016, Physical Sciences were the most successful with 34.0 % success rate. This was also similar a year later, when Physical Sciences achieved the highest success rate of 27.6 %. On the contrary, the lowest success rate was in the field of Technical Sciences (26.3 % success rate of projects starting in 2018) and Social Sciences and Humanities which have long-term lowest success rates (31.8 % success rate of projects starting in 2017 and 26.3 % success rate for projects starting in 2018, see the Graph 1), despite the fact that these fields receive the highest number of funded standard projects. From a total of 548 standard projects, the most grants awarded were in the field of Social Sciences and Humanities (181 grants), the second largest group include Physical Sciences with 115 grants followed by Technical Sciences with 94 grants and Agricultural, Biological-Environmental Sciences with 80 grants. The lowest number of funded projects was in the field of Medical and Biological Sciences – 78 grants.

5.2 JUNIOR GRANTS

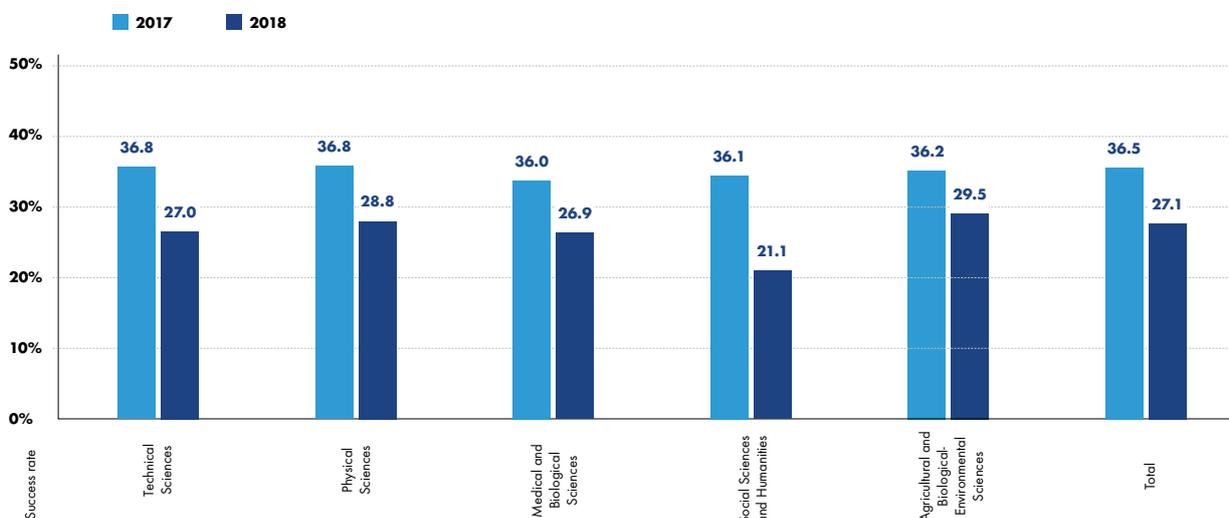
GACR has supported junior projects in basic research since 2014. The duration of projects is 2–3 years. The topic of a project proposal is determined by the drafter. Only one drafter's institution can be mentioned in the project proposal. The drafter can be a scientist in basic research that gained their PhD to the date of a submission deadline and is eight years after getting a PhD at the most. A maternity and parental leave are not included in the mentioned time limit. A six-month stay abroad is a necessary condition for proposal submission. It is possible to divide this stay into two parts. The Call for Proposals is announced annually, usually in February. The evaluation process lasts until autumn and the results are usually announced before year-end. A project proposal is accepted providing that all conditions stated in the Act on Support of Research, Development and Innovation and in the guidelines for junior projects are fulfilled. The main evaluation criteria of project proposals are quality and originality of the project proposal. Junior projects are intended for excellent early-stage researchers. This type of projects enables them to create an independent research team equipped by appropriate research facilities in order to achieve basic research at international level.

Within the public tender announced in 2016, GACR has received 283 junior projects proposals, of which 16 proposals were excluded due to failure to meet the conditions

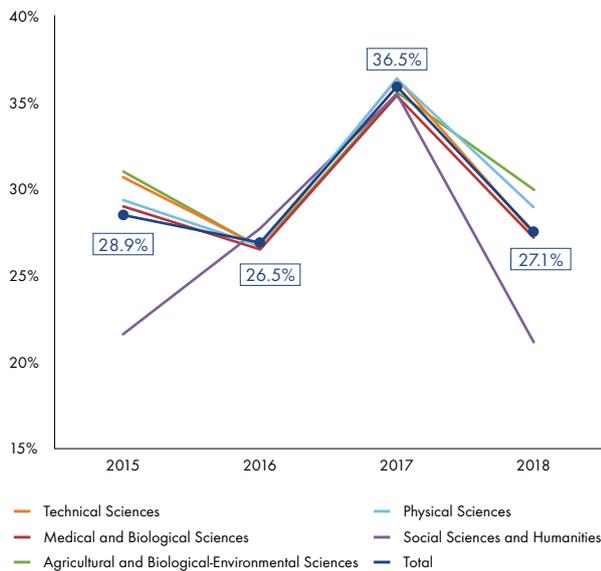
of the tender and one candidate withdrew from the tender. In comparison with the previous year, there was a slight decline in the number of received proposals. When we divide project proposals by fields we can find out that the largest group is in the field of Physical Sciences with 76 proposals, the second place belongs to the field of Technical Sciences with 57 proposals followed by the field of Medical and Biological Sciences with 50 project proposals and Agricultural, Biological-Environmental Sciences with 47 project proposals. The lowest number of evaluated project proposals (36) belongs to the field of Social Sciences and Humanities, similarly as in the previous year. When taking into account the distribution of project proposals by the candidates, GACR evaluated 159 project proposals from universities, 90 project proposals from institutes of the Academy of Sciences, 15 project proposals from the category of others (hospitals, libraries, museums, state institutes other than CAS) and 2 project proposals from private category (individuals, limited liability companies, joint stock companies, private universities, charitable organisations).

In the public tender on support of junior grant projects announced in 2017, GACR received a total of 263 project proposals, of which 5 proposals did not meet the requirements of the tender documentation, 6 proposals were rejected and 1 applicant withdrew from the tender. In comparison with 2016, there has been a slight decline

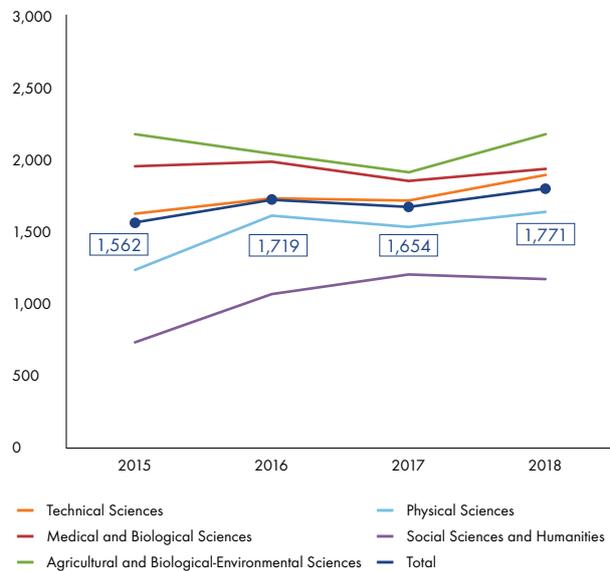
Graph 3: Success rate by disciplines – junior projects with the project launch in 2017 and 2018



Graph 4: Success rate of junior project with the project launch in 2015–2018



Graph 5: Average costs development of junior projects in the first year of project in the years 2015–2018, in thousands of CZK



in the number of accepted project proposals. (Success rate of junior projects with project launch in 2017 has slightly decreased compared to last year.) The highest number of junior project proposals (80) was submitted in the Physical Sciences, the next largest groups include Medical and Biological Sciences with 52 project proposals and Agricultural, Biological-Environmental Sciences with 44 project proposals followed by Social Sciences and Humanities with 38. The lowest number of submitted project proposals (37) was in the field of Technical Sciences. In terms of the distribution of projects by the candidates, GACR evaluated 153 project proposals from universities, 87 project proposals from institutes of the Academy of Sciences, 9 project proposals from the category of others (hospitals, libraries, museums, state institutes other than CAS) and 2 project proposals from private category (individuals, limited liability companies, joint stock companies, private universities, charitable organisations).

The Presidium at its external meeting held on 27 November 2017, based on the recommendation of the advisory bodies and the general consensus, decided to finance 68 junior grants. The success rate of junior grants beginning in 2018 decreased significantly to 27.1 % compared to previous year. Comparison according to individual fields can be seen in the Graph 3.

5.3 INTERNATIONAL PROJECTS (BILATERAL)

GACR has supported this type of projects since 2005 when cooperation with the National Research Foundation of Korea (NRF) and with the Deutsche Forschungsgemeinschaft (DFG) has started. Since 2008, GACR has been in a partnership with the Taiwan organisation National Science Foundation (NSC), presently called the Ministry of Science and Technology (MOST). The duration of projects is 2-3 years. They include all scientific fields of basic research. The topic of a project proposal is determined by the Czech drafter in cooperation with the foreign drafter. The evaluation is conducted independently in both partner organisations. Grants are awarded only after approval by both organisations (GACR and the foreign partner organisation). Each funding agency supports the costs of the approved projects only within its own territory. In the Czech Republic a Call for Proposals is announced annually, usually in February. The evaluation process lasts until autumn and the announcement of results is based on the date of project approval by the foreign partner organisation. All categories of beneficiaries can take part in the public tender if they meet the definition set by Act on Support of Research, Development and Innovation and conditions defined in the tender document on public tender of basic research, experimental development

and innovation on the support of grant projects of basic research – international projects and also regulations for submitting proposals of partner organisations.

In the public tender of international (bilateral) projects with the project launch in 2017, GACR has received a total of 80 project proposals, of which 50 project proposals were in cooperation with DFG, 21 project proposals with MOST and 9 proposals with NRF. Of these 80 proposals of international (bilateral) projects, 15 proposals were excluded, because partner organisation decided not to recommend the projects for funding and 5 applicants withdrew from the tender. In cooperation with MOST, GACR awarded support to 3 international projects starting in 2017 and in cooperation with Korean organisation NRF, GACR is funding 3 international projects starting in 2017. In the public tender on international projects with the German organisation DFG, 10 projects succeeded based on favourable opinion from both agencies.

In the public tender on support of international (bilateral) project launch in 2018, GACR has received a total of 78 project proposals, of which 51 project proposals were in cooperation with DFG, 20 project proposals with MOST and 7 proposals with NRF. In cooperation with MOST, GACR funds 4 international projects launching in 2018 and in cooperation with Korean organisation NRF, GACR funds 2 international projects starting in 2018. In the public tender on international projects with the German organisation DFG to the date of 23 May 2018, a total of 14 projects succeeded based on favourable opinion from both agencies.

5.4 INTERNATIONAL PROJECTS (LA GRANTS)

On 27 May 2013, GACR signed, on the occasion of GRC Summit in Berlin, the Memorandum of Understanding of Scientific Cooperation in basic research with the Austrian organisation Fonds zur Förderung der wissenschaftlichen Forschung (FWF). The aim of the Memorandum is to establish and increase scientific cooperation between researchers and institutions of these two countries and enable the exchange of information and techniques and the use of specialized equipment available in the countries involved. This Czech-Austrian bilateral cooperation constitutes an entirely new group of grant projects where the evaluation process is based on a Lead Agency (hereinafter the “LA”)

principle. The first Call for proposals on the LA principle was announced at the end of the year 2013. The duration of projects is 2–3 years. They include all scientific fields of basic research. The topic of a project proposal is determined by the Czech drafter in cooperation with the foreign drafter. The joint research proposal is submitted to one funding agency only and must be prepared in accordance with the formal guidelines of the LA. The LA is in charge of carrying out the peer review process according to its standard evaluation process. GACR and FWF have agreed that in the first two to three years the Austrian partner will be in the role of the LA. Each research funding organisation funds its national part of awarded projects in accordance with the approved budget proposal. A Call for Proposals is announced annually, usually in autumn.

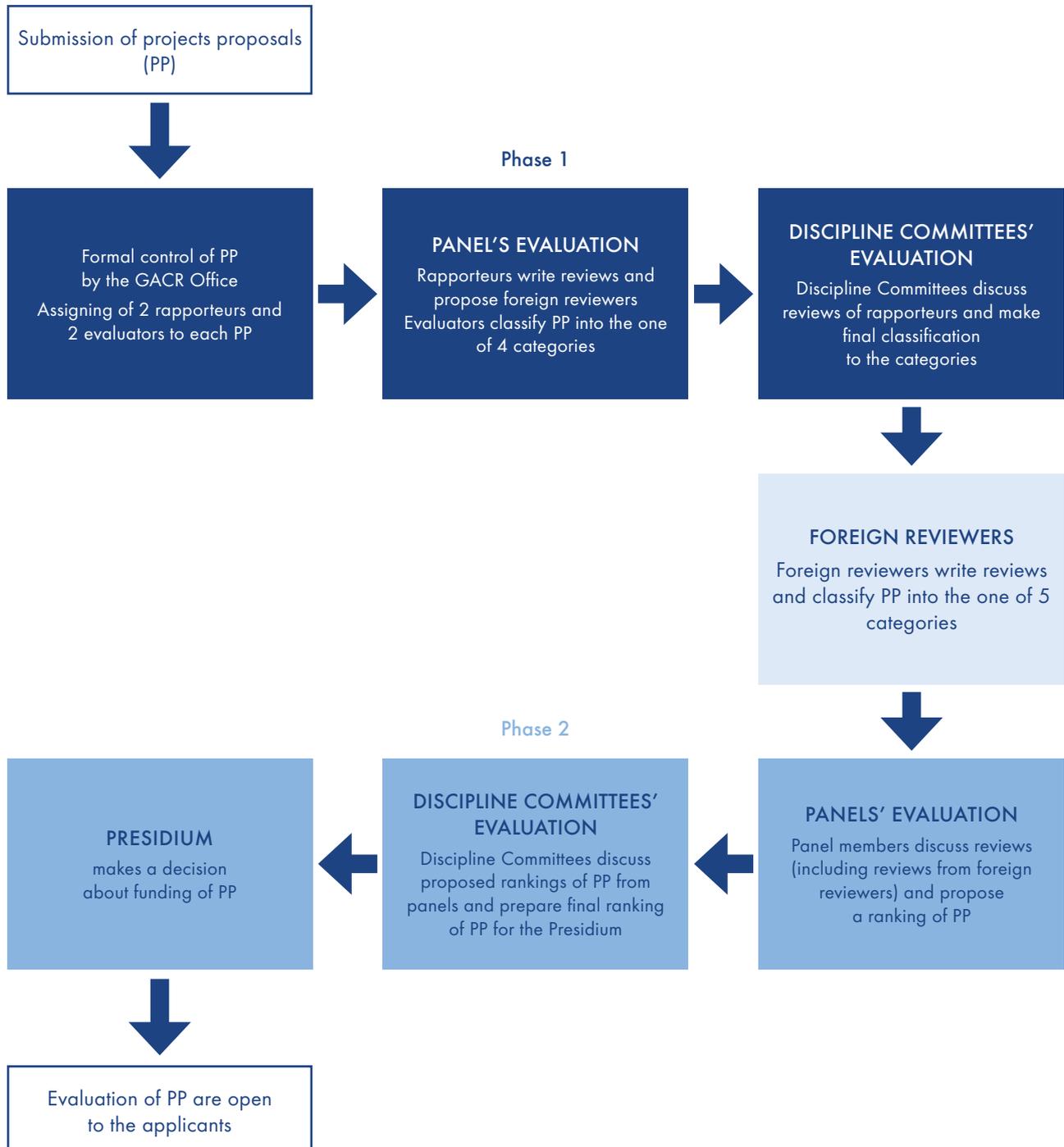
In the joint call for proposals of bilateral Austrian-Czech basic research projects with the project launch on 1 January 2017, a total of 80 project proposals that met the conditions of FWF were received and 12 projects with the onset in 2017 were recommended for funding.

In 2017, no joint call with the project launch in 2018 was announced due to the lack of funds on the Austrian side.

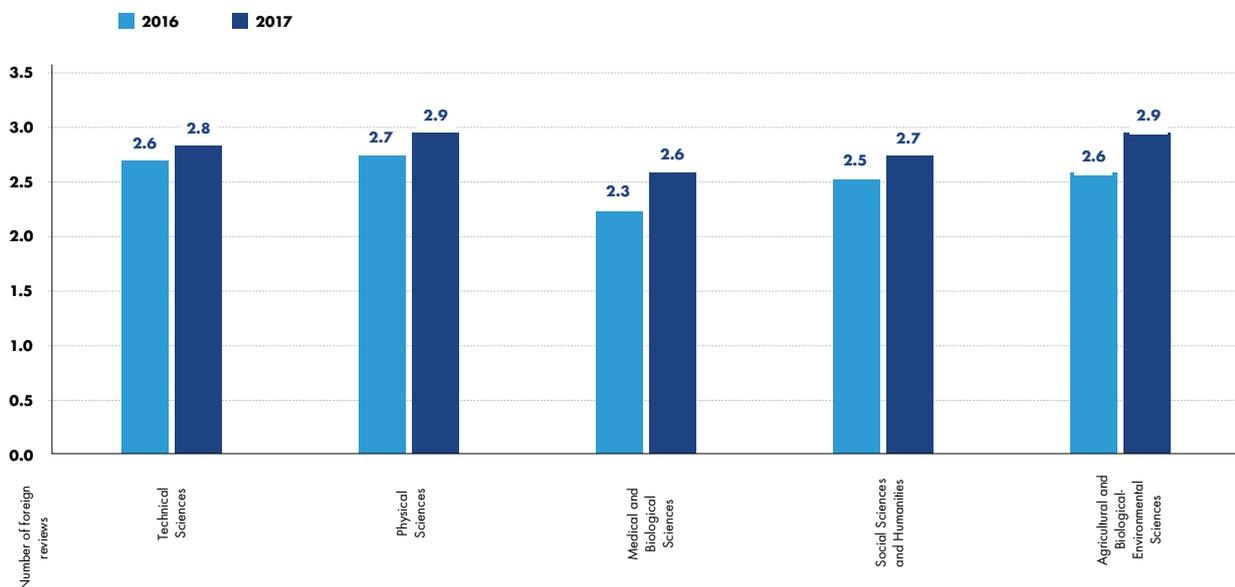
5.5 INTERNATIONAL COOPERATION IN SUPPORT OF ERC GRANT APPLICANTS

At the beginning of 2016, the European Research Council (hereinafter the “ERC”) stated that some countries of the European Union (hereinafter the “EU”) have a significantly lower number of scientists in their competitions, resulting in, among other things, that there is no use of their scientific research potential. In January 2016, ERC published a document called *Fellowship to visit the ERC grantee*, inviting national agencies to develop programs of study internships, through which visits of future ERC applicants at workplace of existing ERC projects investigators would be funded. Foreign study internship should enable the top Czech scientists to gain insight into the competitive environment of international research. As a result, applicants will be more successful in getting the prestigious ERC grant.

“Support of ERC grant applicants” is intended for researchers of GACR junior grants from all disciplines (Technical Sciences; Physical Sciences; Medical and Biological

Scheme 2: Evaluation process

Graph 6: Average number of foreign reviews per one evaluated project in the years 2016 and 2017 according to disciplines



Sciences; Social Sciences and Humanities; Agricultural, Biological-Environmental Sciences), where before submitting an application for the grant project “Support of ERC grant applicants”, the last carried out evaluation assessed the junior grant as completed or excellent. The project is carried out at a foreign workplace where the “principal investigator” of ERC grant (“Mentor”) solves the ERC project. The investigator of a grant project “Support of ERC grant applicants” is required, following the completion of the project, to develop and apply for ERC grant (in programs – ERC Starting Grants; ERC Consolidator Grants or ERC Advanced Grants) with the host organisation in the Czech Republic.

On 22 March 2017, GACR published a continuous call for a group of grant projects “Support of ERC grant applicants” and so far has received no application. The funding for group of grant projects “Support of ERC grant applicants” will be available during the period 2016-2022.

5.6 EVALUATION PROCESS OF PROJECT PROPOSALS

Scheme 2 represents the evaluation process of project proposals. The evaluation process meets the following conditions: eight-month evaluation period set by the law;

three-stage evaluation process (panels, discipline committees, Presidium); two independent peer reviews per project proposal at least set by the law; one foreign review at least per project proposal moved into the second phase of the evaluation. Participants of the evaluation process are obligated to maintain confidentiality. Proposals of standard, junior and international projects are evaluated providing that all conditions stated in the Act on Support of Research, Development and Innovation and in the guidelines for each type of projects are fulfilled.

In the first phase of the evaluation, two panel members write reviews for project proposal and classify the proposals to A1, B1, C or Cn category where the A-category is the highest ranking. In case of interdisciplinary proposals, the reviews are written by rapporteurs from main panels in cooperation with rapporteurs from the other relevant panels. The other two panel members, assigned to the project proposal, classify the proposal to A1, B1, C1 or Cn category. At the panel meeting at least 30 % of proposals (classified to C and Cn category) are stopped for further evaluation due to their lower scientific quality (as compared with the other project proposals). Then the panel members assign foreign reviewers for projects classified to A and B category. In the second phase of the evaluation, the panel members discuss reviews (including reviews from foreign reviewers) and propose a ranking of project pro-

posals according to their quality. At most 25 % of project proposals are classified to the A2 category. There is no limit for B2 and C2 category. The discipline committees discuss proposed rankings from panels and prepare a final ranking of proposals. The Presidium makes a decision on funding of project proposals. The whole process is described in detail at www.gacr.cz.

In 2017, as in the previous year, all project proposals in the second phase of the evaluation were evaluated by foreign reviewers. The average number of foreign evaluations for one project by disciplines can be seen in the Graph 5.

5.7 EVALUATION OF COMPLETED PROJECTS

By March 2017, 841 grant projects funded by GACR were completed and the researchers presented their final reports on 31 January 2017. Evaluation panels and consequently discipline committees conducted evaluation of

the grant projects' results by pre-established criteria and recommended projects for final classification to the Presidium. The number of projects divided by the final status and the relevant discipline committees, which were evaluated on March 2017, is shown in Table 2. During 2017, further 108 final reports were evaluated.

Table 2: Number of projects according to final evaluation and discipline committee by March 2017

Discipline committees	Total number of grant projects	Therefrom:				
		Excellent	Fullfiled	Fulfilled with reservation	Not fullfiled	Deferred evaluation
Technical Sciences	157	17	105	9	2	24
Physical Sciences	188	38	125	4	1	20
Medical and Biological Sciences	116	21	52	5	6	32
Social Sciences and Humanities	238	20	53	13	8	144
Agricultural and Biological-Environmental Sciences	142	28	76	1	1	36
Total	841	124	411	32	18	256

6 INTERNATIONAL ACTIVITIES

Developing and strengthening of international cooperation in basic research is crucial to GACR. Efforts to deepen and improve cooperation with existing foreign partners and develop new opportunities for international cooperation are GACR's main priorities.

Since 2005, GACR successfully implements traditional form of bilateral cooperation to promote joint projects with partner organisations from Germany, Taiwan and South Korea. Memorandums of understanding were signed specifically with the Deutsche Forschungsgemeinschaft (DFG) – Germany, Ministry of Science and Technology, Republic of China (MOST) – Taiwan and the National Research Foundation of Korea (NRF) – South Korea. Cooperation on the principle of Lead Agency has been successfully established with Austrian partner agency Fonds zur Förderung der wissenschaftlichen Forschung (FWF).

In an effort to maintain and develop strategic cooperation in international relations in the field of science, GACR is a member of multinational organisations. Currently, it is mainly the Science Europe (hereinafter the "SE") which is an European organisation and Global Research Council (hereinafter the "GRC") which is a virtual platform with global reach.

SE is an association of organisations providing funding for European research (Research Funding Organisations) and organisations that directly perform research (Research Performing Organisations). SE association was founded in 2011 and is headquartered in Brussels. It brings together 43 organisations from 27 European countries; GACR is so far the only representative of the Czech Republic.

The President represented GACR at international meetings at the highest level. In terms of GACR's membership in SE, the President attended SAC Symposium and the General Assembly Science Europe where the main focus was on "open science" and the possibilities of multilateral cooperation on the principle of Lead Agency. Moreover, the President participated in the 9th Science Europe High Level Workshop where the main topic was the "good practise

exchange" in the area of evaluation processes between the involved representatives of the agencies.

In the context of GACR's membership in the GRC the President was invited to the Annual Meeting – Global Research Council where the focus of the discussion was on building capacities and the possibilities of linking agencies supporting research on global level. On the occasion of this meeting, FWF representatives initiated informal meeting – Working Breakfast at the Annual Meeting of the Global Research Council 2017 where five Central European agencies supporting basic research (from Austria, Poland, Hungary, Slovenia and the Czech Republic) participated. The aim of this meeting was to initiate discussion regarding the possibilities of creating new form of cooperation for the support of research in terms of Central Europe. The President also attended the Global Research Council – European Regional Meeting where in terms of preparation for the global GRC meeting in May, two crucial topics – "peer review" and science diplomacy were discussed.

Following the GRC informal meeting, the heads of research funding organisations (HORCs) from five Central European countries met in Ljubljana at the invitation of Slovenian Research Agency. The presidents of ARRS (József Györkös, Slovenia), FWF (Klement Tockner, Austria), GACR (Alice Valkárová, Czech Republic), NCN (Zbigniew Blocki, Poland) and NKFIH (József Pálincás, Hungary) agreed to further strengthen the scientific ties in Central Europe and expressed their commitment to expanding of the current bilateral cooperation. In terms of this new initiative, positions of Central European countries in transnational associations such as the SE and the GRC will be strengthened.

The President further participated in the prestigious World Science Forum 2017 in Jordan which occurred under the auspices of King of Jordan Abdullah II Al Hussein, the president of Hungary, János Áder and the Director-General of UNESCO, Irina Boková. The main theme of the International Science Forum was the topic of "Science for Peace". Three thousand experts from over one hundred countries participated in this forum which represented an unique opportunity for networking.

In order to strengthen international cooperation, the President welcomed several foreign delegations on the premises of GACR. Among other prominent guests were, for instance, Mathieu Wellhoff – scientific and academic attaché from the French institute in Prague, Guo Xiaolin – Counsellor (Science and Tech) and Zhang Yunfan – Third

Secretary (Science and Tech) from the Embassy of the People´s Republic of China in the Czech Republic, Ariel R Jahner – economical section employee of the U.S. Embassy in the Czech Republic and Pavol Balžanka, the director of the Slovak research funding agency (Slovak Research and Development Agency).

7 GENDER SITUATION IN THE GACR AUTHORITIES AND PROJECTS

7.1 GACR AUTHORITIES

GACR authorities consist of the Presidium, SAB and SB. The Presidium and the SAB are appointed and recalled by the Government. Members of the SB are appointed and recalled by the Chamber of Deputies. GACR does not take

part in the selection process of the GACR authorities and therefore has no opportunity to influence a representation of women in the GACR bodies.

Table 3: Proportion of women and men in the GACR bodies

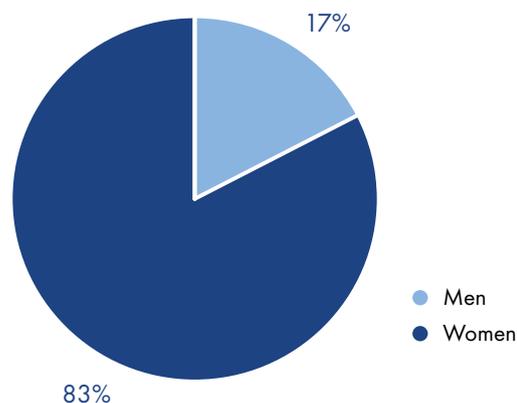
GACR	Total	Number of women	Number of men	Proportion of women
Presidium	5	3	2	60.0%
Scientific Advisory Board	11	1	10	9.1%
Supervisory Board	9	4	5	44.4%

7.2 OFFICE

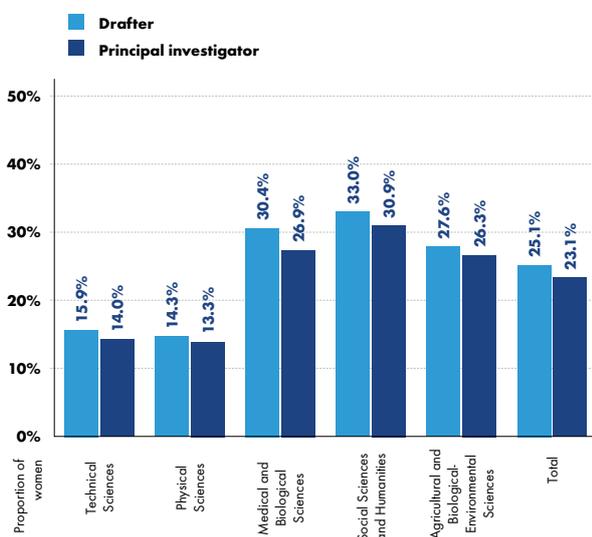
Heads of the Office select their employees and co-workers on the basis of professional qualifications and experience. GACR systematically follows steps leading to achieve a gender balance. Upon an agreement, the Office enables flexible contracts, home office and to adjust working time to suit individual needs.

In 2017, the GACR Office had 46 employees – 38 women and 8 men

Graph 6: Proportion of women and men employed in the GACR Office



Graph 7: Proportion of women as drafter and principal investigator of standard projects with the project launch in 2018 according to the discipline committees



7.3 PANELS

Evaluation panels are expert bodies of the discipline committees. Based on the Presidium's invitation, natural or legal persons active in research propose nominations for panel members. Working groups, consisted of a representative from the R&D Council, a member of the Presidium and a member of the SAB, carry out a selection of panel members.

In 2017, there was a significant personal change in evaluation panels according to the GACR Statute and Rules of Procedure of discipline committees and evaluation panels. During this change more than half of the panel members were newly appointed. New experts began their first term on 1 April 2017. At the end of 2017, there were 400 professionals (318 men and 82 women) in 39 panels. The overall representation of women in evaluation panels was 20.5 %.

Each of the 39 GACR panels were represented by elected chairs and vice-chairs. Of all chairs, five were women (13 %) and 34 were males (87 %). 14 women held a position of vice-chair (36 %) compared to 25 men in the vice-chair position (64 %).

7.4 GACR PROJECTS

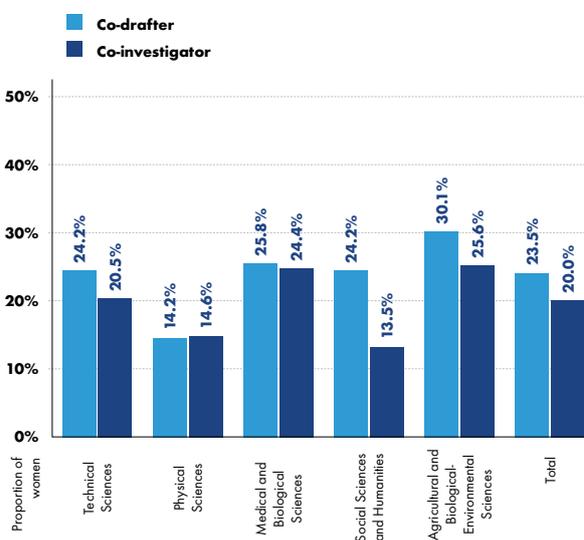
Based on the opinion of the Office for Personal Data Protection (OPDP) from 21 January 2015, GACR must not require data regarding gender from drafters and co-drafters; this information may only be provided to GACR voluntarily. GACR Office thus cannot guarantee the data completeness.

7.5 STANDARD PROJECTS

The data below contains information that was available about gender in the area of standard projects.

For standard projects beginning in 2018, 2,062 project proposals were evaluated. The gender of the drafter was possible to determine in 2,046 project proposals. Of these projects, women were in the role of the drafter in 514 project proposals (25.1 %). Out of which 126 projects carried out by women as principal investigators (23.1 %) were supported. There were 167 women in the role of co-drafter (23.5 %) and 42 women (20 %) in the role of co-investigator. The women success rate was 24.5 % compared to men success rate of 27.3 %.

Graph 8: Proportion of women as co-drafter and co-investigator of standard projects with the project launch in 2018 according to the discipline committees

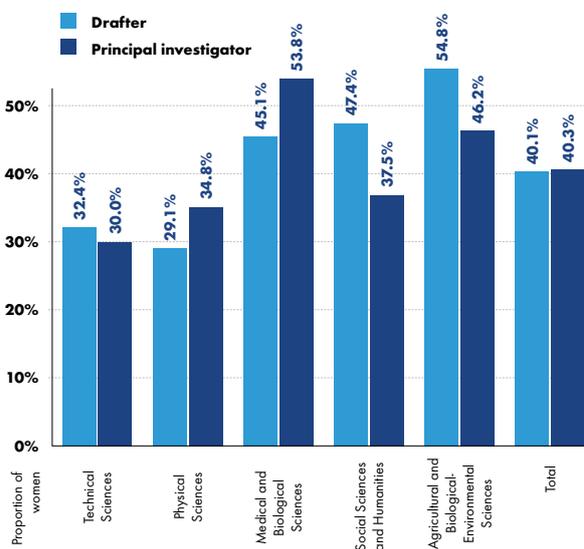


7.6 JUNIOR PROJECTS

The data below contains information that was available about gender in the area of junior projects.

In the public tender on support of junior projects with the expected project launch in 2018, a total of 251 project proposals were evaluated. Determining the gender of drafter was possible in 247 project proposals. Women were in the role of drafter in 99 project proposals (40.1 %) and 27 projects (40.3 %) have been funded. Women success rate was 27.3 % compared to men success rate of 27 %.

Graph 9: Proportion of women as drafter and principal investigator of junior projects with the launch of project in 2018 according to the discipline committees





8 GACR COMMUNICATION

In 2017, GACR intensively worked on building relationships with both professional community and general public, informing them about successful projects and the importance of basic research. In addition to the events attended by GACR representatives, the agency focused on promoting outstanding project results through media, GACR website and social networks.

GACR representatives participated in series of public events and also presented at some of them, for example at Grants Week, organised by the Masaryk University in Brno or at the Knowledge, Research, Education Conference 2017 (KRECon) which focused on young and early-stage researchers.

As in the previous years, the director of the GACR Office Ing. Lada Knetlová carried out seminars on the topic of new conditions that were stipulated in public tenders on support of grant projects in basic research. The seminars also offered the beneficiaries, current and potential principal investigators a possibility to ask individual questions.

The President and the Vice-president Professor Hronová presented at the Council of Universities during the year of 2017. The President also actively contributed to the academic assembly of the Czech Academy of Sciences. On 20 April 2017, she also attended the discussion session on Science Bureaucracy organised by Mafra Events.

On 27–28 November 2017, at the external meeting in Loučeň in the Czech Republic, Presidium and heads of the individual sections of the Office met with Deputy Minister for Science, Research and Innovation Mgr. Arnošt Marks, Ph.D. and his deputy Ing. Lucie Orgoníková, representatives of the Council of Universities, Czech Rectors Conference, CAS, the ERC, TACR, GACR discipline committees, SAB and SB. The representatives of CAS and universities presented suggestions which could ease the workload for the grant applicants of GACR. Positive news for all the parties involved is that some of the suggestions have already been, on the Presidium's initiative, incorporated into the tender documentation for calls of 2018.

GACR uses mainly its website www.gacr.cz and social networks for distribution of information and communi-

cation with others. With the help of these mentioned channels, GACR informs about important events and new developments in the area of basic research. GACR offers a helpdesk for researchers and administrators. The GACR staff respond to enquiries that are sent to the Office via email info@gacr.cz, phone number +420 227 088 841 and online contact form. The most frequent enquiries are listed in the folder of FAQ and published on the GACR website. In 2017, GACR received almost 10 000 enquiries.

At the end of the year, a contract with 4 JAN Public Relations, LLC was signed. The purpose of this contract is to increase the publicity of basic research and subsequently of GACR. The main goal of this new cooperation is to emphasise the high number of scientific outputs funded by GACR and the impact achieved to the public. This contract also includes creation of the new GACR website which should be more user-friendly.

8.1 GACR PRESIDENT'S PRIZE



GACR President's Prize was awarded to researchers of the best basic research projects on 21 September 2017 in the refectory of the Profession house in the building of the Faculty of Mathematics and Physics at Charles University in Prague. Results were gender-balanced, as winners in 2017 are three female scientists and two male scientists.

Archaeologist Gabriela Blažková from the Institute of Archaeology of the Czech Academy of Sciences was awarded for two-piece monograph dedicated to findings

in the renaissance waste pits of the Prague castle. Hydrobiologist Jiří Kopáček from the Biology centre of the Czech Academy of Sciences proved that natural forest regeneration after the bark beetle calamity in Šumava is the best solution for reforestation. Biochemist Michaela Rumlová from the University of Chemistry and Technology in Prague brought a new hope to HIV patients. Other laureates are Ivana Orlitová from the Institute of Astronomy of the Czech Academy of Sciences whose project explained the creation and evolution of the space mechanism and lastly Lukáš Sekanina, an IT expert from the Faculty of Information Technology (FIT) of Brno University of Technology who together with his team has developed new methods of digital circuits optimisation.

GACR President's Prize is awarded annually as the recognition for outstanding achievements in basic research projects supported by GACR in accordance with the Act on Support of Research, Development and Innovation. The final choices for the awards are ultimately determined by the five-member Presidium vote. A financial reward is part of the GACR President's awards.

GACR in addition to press releases has also prepared short video vignettes, which describe each of the winning scientists and their projects in their own words. The videos are available on the GACR's channel on YOUTUBE portal: <https://www.youtube.com/user/GrantovaAgentura>

8.2 INFORMATION ABOUT THE GACR PRESIDENT'S PRIZE AWARDED PROJECTS IN 2017:

The archaeologist Gabriela Blažková described "treasures" found in the renaissance waste pits at the Prague Castle



Mgr. Gabriela Blažková, Ph.D.

The project of archaeologist Gabriela Blažková from the Institute of Archaeology of the Czech Academy of Sciences was aimed at the treasures found at the bottom of the renaissance sink water pit at the Prague Castle. During the course of the project, more than 680 pieces of crockery and 250 pieces of glass objects were found. The main outcome of this project is a bilingual

(Czech-English) monograph covering all the findings and their usage.

Jiří Kopáček: Natural course of forest regeneration after the bark beetle infestation as the best solution for protected mountain forest areas



Prof. Ing. Jiří Kopáček, Ph.D.

The foremost Czech hydro-biologist Professor Jiří Kopáček was researching the effects of the bark beetle calamity in 2004 on the forest, soil and water ecosystems of the Šumava region in the Czech Republic. The project lasted five years and scientists from three different institutions in the Czech Republic collaborated on it. The project results show that non-interference and natural course of forest regeneration should be considered as one of the most effective ways of forestation in the areas affected by the bark beetle.

Project of Ivana Orlitová provided better understanding of the space's creation and development



Mgr. Ivana Orlitová, Ph.D.

Dr Ivana Orlitová from the Institute of Astronomy of the Czech Academy of Sciences specialises in observing galaxies and active galactic nuclei in optical and ultraviolet field. In cooperation with an international team of scientists, Dr Ivana Orlitová was able to prove the existence of ionising radiation escape from galaxies and thus contribute to solving one of the fundamental astronomical questions concerning the sources of radiation which ionised the cosmos in its beginnings. The scientist primarily concentrated on the hypothesis that the ionisation was caused by the largest stars in galaxies. The young scientist was granted the possibility to use the Hubble telescope located in the Earth's orbit. The scientific team has chosen five compact dwarf galaxies for the observations. The observations during the course of the project proved the existence of ionising radiation escape in all five monitored dwarf galaxies which is thus far the most significant confirmation of this phenomenon.

Project of the Czech molecular-biologist Michaela Rumlová brought new hope for HIV patients



Dr. Ing. Michaela Rumlová

Project of the Czech molecular-biologist Michaela Rumlová, who is currently working at the University of Chemistry and Technology in Prague, is aimed at the characterisation of interactions necessary for the creation of retroviral particles and for the development of methods of testing HIV inhibitors. Michaela Rumlová's team was able to solve the detail structure of the HIV retroviral particles. This will enable scientists to work directly on substances which can inhibit the composition of retroviral particles. In the scope of this project, scientists developed an effective large-scale screening method, which was also patented.

Professor Lukáš Sekanina developed unique methods for evolutionary design of complex digital circuits at global level



Prof. Ing. Lukáš Sekanina, Ph.D.

Professor Lukáš Sekanina, an expert in the field of computer systems, who is currently working at the Faculty of the information technologies in Brno, and his team developed new methods which enable the optimisation of digital circuits used in computer architectures. The research of Professor Lukáš Sekanina proved that it is possible to evolutionarily devise complicated electronic circuits. The results of this praised project aroused large response even abroad. The results were published and quoted worldwide in artificial and computational intelligence publications.

8.3 INFORMATION REGARDING SELECTED OUTSTANDING PROJECTS

How to fight against prejudice? An example of relationship between participants of five nationalities in Central Europe

Mgr. Sylvie Graf, Ph.D.

and doc. PhDr. Martina Hřebíčková, Dr., DSc.

Project which was carried out by Mgr. Sylvie Graf, Ph.D. and doc. PhDr. Martina Hřebíčková, Dr., DSc. from the Institute of Psychology of the Czech Academy of Sciences focused on the possible approaches to prejudice reduction. The scientists concentrated on relationships between participants from neighbouring nations in Central Europe. Based on the unique data from Central Europe, the two scientists have proven that negative experience has a relatively higher impact on increasing prejudice than positive experience on decreasing it. However, the positive experience occurs more frequently which then ultimately balances and reduces the higher impact of negativity on the prejudice. Outcomes of this project are presented in the monography "Czechs and their neighbours. Intergroup attitudes and contact in Central Europe." and article in "European Journal of Social Psychology".

Hopeful results in the field of tumour cells and cytostatic agents brought project of Professor Blanka Říhová

Prof. RNDr. Blanka Říhová, DrSc.

Project of Prof. RNDr. Blanka Říhová, DrSc. from the Institute of Microbiology of the Czech Academy of Sciences brought hopeful results in the field of tumour cells and cytostatic agents. The current advancement in chemotherapy is mainly aimed at the development of new types of cytostatic agents with lower toxicity which inhibit the creation of resistance. The resistance to particular cytostatic agent and multidrug resistance (MDR) is a frequent reason for the failure of chemotherapy. The project team brought new findings proving that the systems for medicaments transfer based on HPMA copolymer conjugates carrying cytostatic agents and P-gp inhibitors are capable to effectively overcome gained and natural multidrug resistance. The results were published in series of scientific journals in the Czech Republic and abroad.

Mathematical methods used to fix blurred photographs

doc. Ing. Filip Šroubek, Ph.D., DSc

Project of doc. Ing. Filip Šroubek, Ph.D., DSc. from the Institute of Information Theory and Automation of the Czech Academy of Sciences was aimed at the blurred photographs. Doc. Ing. Filip Šroubek, Ph.D., DSc. and his team developed mathematical models which enable to refocus blurred digital photographs. The main step of this project was to precisely mathematically model the process of image scanning. It is possible to use this method in photography and other fields such as astronomy, ophthalmology or nuclear medicine. The results were published in 15 scientific journals and were presented at many prestigious foreign conferences.

comprehensive physical mechanism theory of this scanning. The key for obtaining this sub-molecular contrast is the placement of one molecule (e.g. carbon monoxide) or atom at the end of the metallic probe. The presence of the flexible particle at the end of the probe causes the strengthening of the signal which then enables to achieve unprecedented resolution of the molecules. This new method also proved the validity of the equation of the Nobel Prize winner Linus Pauling for the covalent bond from the 1930s.

Parrots and corvids are clever due to the extreme high number of neurons in their cerebrum

Mgr. Pavel Němec, Ph.D.

Project of Mgr. Pavel Němec, Ph.D. from the Faculty of Science, Charles University in Prague revealed the anatomical nature of bird intelligence and therefore solved the mystery why some birds are extremely intelligent although their brains are small. The research of Mgr. Pavel Němec, Ph.D. proved that small brains of birds contain substantial number of neurons. Despite the fact that the largest brains of Passeriformes weigh around 16 grams and the largest brains of parrots weigh about 25 grams, the brains contain equal number of neurones as primate brains which are significantly larger. This research proved that neither absolute nor relative size of the brain is a proper measure of cognitive abilities. It is rather dependent on the cellular composition and neural density. The results of the research were reported by the media worldwide.

Determination of chemical molecular structure, the chirality and the electronegativity of atom

doc. Ing. Pavel Jelínek, Ph.D.

Doc. Ing. Pavel Jelínek, Ph.D. from the Institute of Physics of the Czech Academy of Sciences together with his team was able to differentiate chemical structure of molecules on the surface of solid substance. The scientist developed

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