



Institute of Geophysics
Polish Academy of Sciences

**HR Strategy
for
research employees of
the Institute of Geophysics
of the Polish Academy of Sciences
(HRS4R)**



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1. Introduction

The Institute of Geophysics of the Polish Academy of Sciences (*Instytut Geofizyki Polskiej Akademii Nauk*, IG PAS) is a scientific institution representing the mainstream of Polish basic research in Earth sciences. It is the only institution in Poland that performs monitoring of geophysical fields in seismology, geomagnetism, and selected areas of atmospheric physics.

In 2017, as a result of the evaluation of its research activities, the IG PAS received the highest research category A+ awarded by the Ministry of National Education.

As of the beginning of the 90s of the 20th century, the Institute's registered office is located in the building at 64 Księcia Janusza St. in Warsaw. The registered office of the Department of Seismology of the IG PAS is located in Kraków. Modern, well-equipped laboratories, as well as refurbished office and social rooms enable the research staff of the Institute at all stages of their career to have comfortable working conditions and conduct high-quality research. More information about the Institute, its objectives and achievements is available on its website, at: <https://www.igf.edu.pl/>.

1.1 Mission of the IG PAS

- Studying geophysical processes for better understanding of the mechanisms controlling the Earth's system and risk management.
- Working for the benefit of the society and economic development.
- Development and maintenance of strategic research infrastructure.
- Geophysical monitoring.
- Training future leaders of the scientific community.

1.2 Research areas

Research carried out in the Institute are focused on four main areas:

- anthropogenic and natural geohazards;
- geosystem processes;
- Earth structure and georesources;
- climate change and polar regions.

1.3 Statutory tasks

The main statutory tasks of the Institute include scientific research, development, monitoring and educational activities, as well as dissemination of the results of the research and their implementation in the economy.

An important objective of the activity is supporting people beginning their scientific careers and education and development of research employees and specialists with particular skills in the field of geophysical sciences, as well as to anticipate hazards, perform risk assessments and manage crisis situations.



The Institute also conducts extensive cooperation with universities, research institutes and scientific associations, particularly in the field of research and development works. It also ensures the continuous development of international scientific cooperation through creation of research consortia and conduct of joint research projects with foreign partners.

1.4 Organisational structure

The governing bodies of the IG PAS are the Director and the Scientific Board. These bodies define the research policy and stimulate activities of the Institute in order to maintain the highest possible standards both in the research and the general organisational context.

The organisational structure of the IG PAS includes 3 divisions:

- research;
- technical;
- administration and finance.

The research division comprises 8 scientific departments:

- Department of Theoretical Geophysics;
- Department of Atmospheric Physics;
- Department of Hydrology and Hydrodynamics;
- Department of Magnetism;
- Department of Seismology;
- Department of Lithospheric Research;
- Department of Geophysical Imaging;
- Department of Polar and Marine Research.

Additionally, the Institute supervises five geophysical observatories in: Belsk, Hel, Racibórz, Książ, Świder, as well as two polar stations: Stanisław Siedlecki Polish Polar Station in Hornsund and A.B. Dobrowolski Polish Antarctic Station.

Researchers benefit from the administrative (including financial) support for their works provided by dedicated units, such as: Project Management Department, Procurement Department, Financial and Accounting Department, Administration Department, Technical Support Department, HR Department and Research Office.

Research employees of the Institute actively and successfully apply for public funds for research projects, as well as carry out commercial activities as part of R&D. The Institute undertakes several activities aimed at disseminating knowledge and promoting knowledge in the society. These tasks are mainly carried out by the Promotion and Science Popularisation Department, GeoPlanet Coordination Department and the Science Communication and Education Unit. Main sources of public funding for research projects carried out by the IG PAS include the state budget (subsidies, grants from Polish funding institutions: Ministry of Education and Science, National Centre for Research and Development, National Science Centre, Information Processing Centre – National Research Institute) and European Union funds (both structural funds and EU framework programs).

1.5 Employment structure

Currently, the IG employs 176 employees (including 75 research employees), while the number of doctoral students is 23 (as of December 2021). The structure of positions at the IG PAS is presented in Figures 1 and 2.

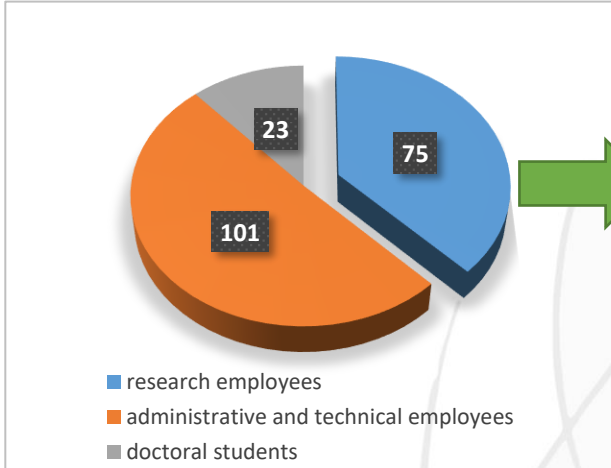


Figure 1. Structure of the IG PAS by position

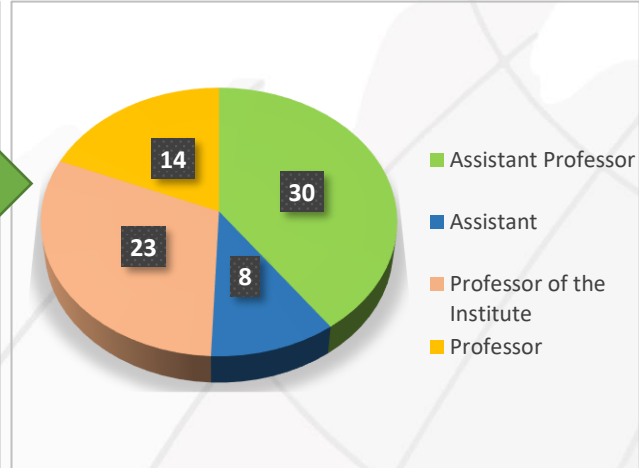


Figure 2. Structure of research employees of the IG PAS by position

The general research employee structure remains similar to that presented in the 2016 HR Strategy for Research Employees (HRS4R) (see Table 1 below).

Table 1. Number of research employees and doctoral students at the IG PAS in 2016 and 2021 (as at December of the particular year)

	2016	2021
Number of research employees	73 , of which: 21 women 52 men	75 , of which: 24 women 52 men
Number of doctoral students	22 , of which: 8 women 14 men	23 , of which: 11 women 12 men

Figure 3 shows an obvious gender imbalance among research employees.

When analysing the gender structure of doctoral students, almost equal shares of men and women can be noticed (Figure 4).

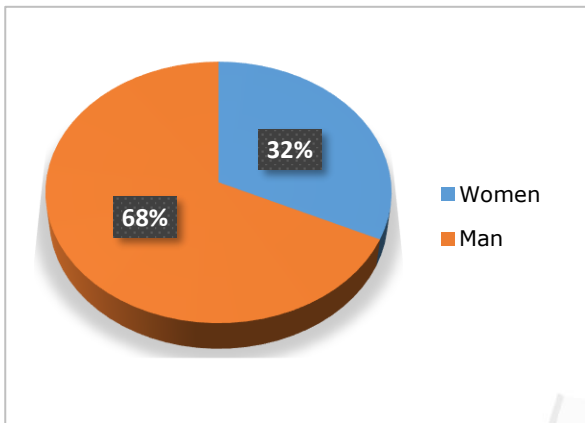


Figure 3. Gender structure of research employees of the IG PAS (as at December 2021)

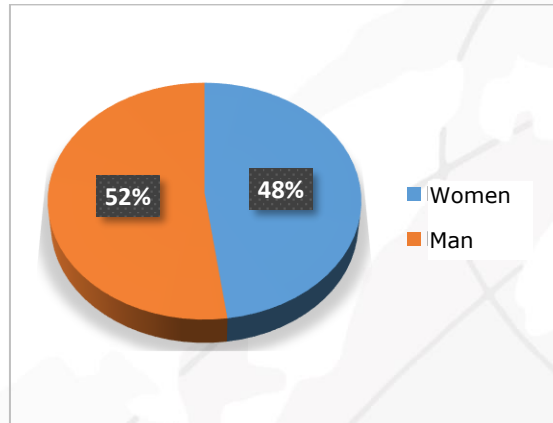


Figure 4. Gender structure of doctoral students of the IG PAS (as at December 2021)

The gender structure of research employees presented above is due to the fact that, in the past, exact sciences were considered “male” disciplines. This issue is continuously discussed by directors of the IG PAS; measures are being considered to attract more women to science. However, it should be noted that the availability of suitably qualified female candidates in the labour market is limited, in particular among independent researchers. Although the Institute cannot do much to change the market situation and attract more female researchers, female representation among young researchers is clearly increasing. At present, the gender ratio of doctoral students is 48% to 52% (women to men).

2. Stages of the implementation of the HR Excellence in Research logo

❖ April 2016

- Endorsement Letter – submission of a declaration of support for the principles resulting from the European Charter for Researchers and the Code of Conduct for the recruitment of researchers; commencement of activities at the IG PAS to obtain the HR Logo distinction.
- Appointment of the Team for the implementation of the principles and recommendations of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers at the IG PAS.
- Conducting a survey among employees and doctoral students of the IG PAS; analysis of survey results; consultation with researchers.

❖ April – May 2016

Preparation of the IG PAS HR Strategy, including Gap Analysis and Initial Action Plan.

❖ May 2016

Sending the declaration of support and other required documents to the European Commission.

❖ June 2016

Granting the IG PAS the right to use the HR Excellence in Research distinction by the European Commission.



- ❖ **June 2018**
Submission of the Internal Review document to the European Commission.
- ❖ **January 2019**
Interim assessment carried out by the European Commission – Consensus Report.
- ❖ **May – July 2019**
The SWOT analysis at the department and the organisational level performed by an external company.
- ❖ **October 2019**
Preparation and implementation of the action plan for 2019-21.
- ❖ **June 2021**
Audit of the recruitment process for research positions at the IG PAS conducted by the Internal Auditor.
- ❖ **July – August 2021**
Audit of the Logo HR implementation process at the IG PAS carried out by the Internal Auditor.
- ❖ **October – December 2021**
Establishment of the Committee for the development of the PAS Gender Equality Plan.
- ❖ **November, 2021**
OTM-R Policy – preparation and dissemination among employees of the IG PAS.
- ❖ **November – December 2021**
 - Conducting a survey among employees and doctoral students of the IG PAS; analysis of survey results.
 - Updating HRS4R, drawing up the action plan for 2022-2024.

3. Updating the HR Strategy (HRS4R)

The Team for the implementation of the principles and recommendations of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers at the IG PAS, appointed in 2016, played a key role in the HRS4R process. In 2018, a so-called Interim Assessment was conducted at the IG PAS. It involved the verification of the implementation of the strategy and the degree of its compliance with the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (C&C). Required documents were sent to the European Commission in June 2018. The assessment of the EC assessors indicated a high level of involvement of the IG PAS in the HRS4R process. However, the weaknesses of the process and areas/tasks that should be verified were also indicated including, *inter alia*, lack of new actions taken by the Institute, actions presented in a too general way, non-measurable indicators or lack of involvement of research employees in the HRS4R procedure.

Before the third stage (renewal phase), a Working Group for HRS4R implementation and monitoring was established. The aforementioned groups included representatives of all employee groups (with special consideration of research employees) and doctoral students. The main task of the HR Logo Working Group was to draw up the Internal Review document. Taking into account a high percentage of researchers and doctoral students who participated in the survey conducted in 2016, it was agreed during the discussions that the document in question, in the HR Logo renewal phase, will be prepared based on the same methodology. In addition, feedback on working conditions and other issues related

to C&C principles was obtained from the IG PAS community during scientific seminars and other informal meetings.

The survey, like the previous one, was based on all 40 C&C principles, which facilitated the comparison of results with those obtained in 2016. The purpose of the new survey was to determine the current state of implementation of the principles and to identify new areas for implementation.

4. Results of the survey

In order to conduct a diagnosis of the current status, i.e. determine the degree of implementation of the principles of the Charter and the Code at the IG PAS and their importance for researchers, as at the initial stage, the anonymous survey covering 40 issues was conducted from 10 to 21 November 2021. Each question was rated on a scale of 1-5: in terms of significance (whether the question is important for the respondent) and the degree of implementation (i.e. to what extent the solutions presented in a given question are implemented at the Institute). The survey was addressed to research employees and doctoral students and participation in the survey was voluntary. Although participation in the survey was not compulsory, a share of people, who decided to participate was high, i.e. 56 people took part in the survey, which is close to 53% of eligible persons.

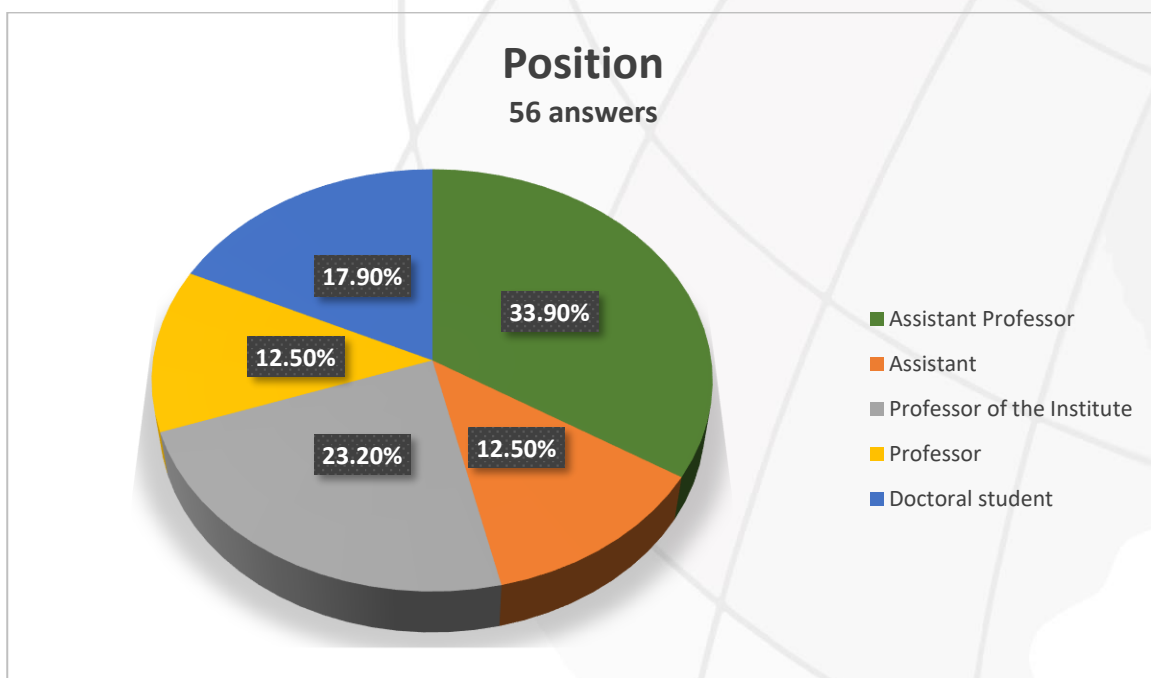


Figure 5. Share (%) of respondents according to the position

The position structure of respondents was as follows (Figure 5):

- Assistant Professors (the largest group – 33.9% – about 1/3 of respondents);
- Institute Professors (23.2%);
- Assistants (12.5%);
- Professors (12.5%);

- doctoral students (17.9%).

MOST of the respondents were men. At the same time, the age structure of respondents was not highly diversified – share of persons above and below 35 years of age was similar (Figure 6).

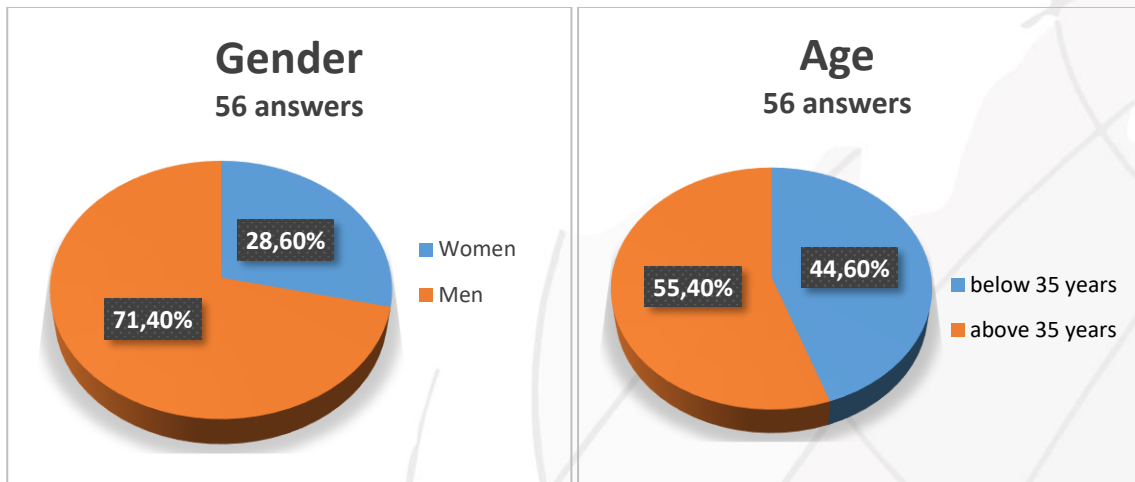


Figure 6. Share (%) of respondents according to gender and age

Most of the respondents were employees with work experience of up to 5 years. More than 1/5 of the respondents indicated over 20 years of service with the Institute (Figure 7). High diversification of respondents in terms of years of service has allowed to present the issues from a very broad perspective, both from the point of view of young employees and persons with significant achievements and research experience.

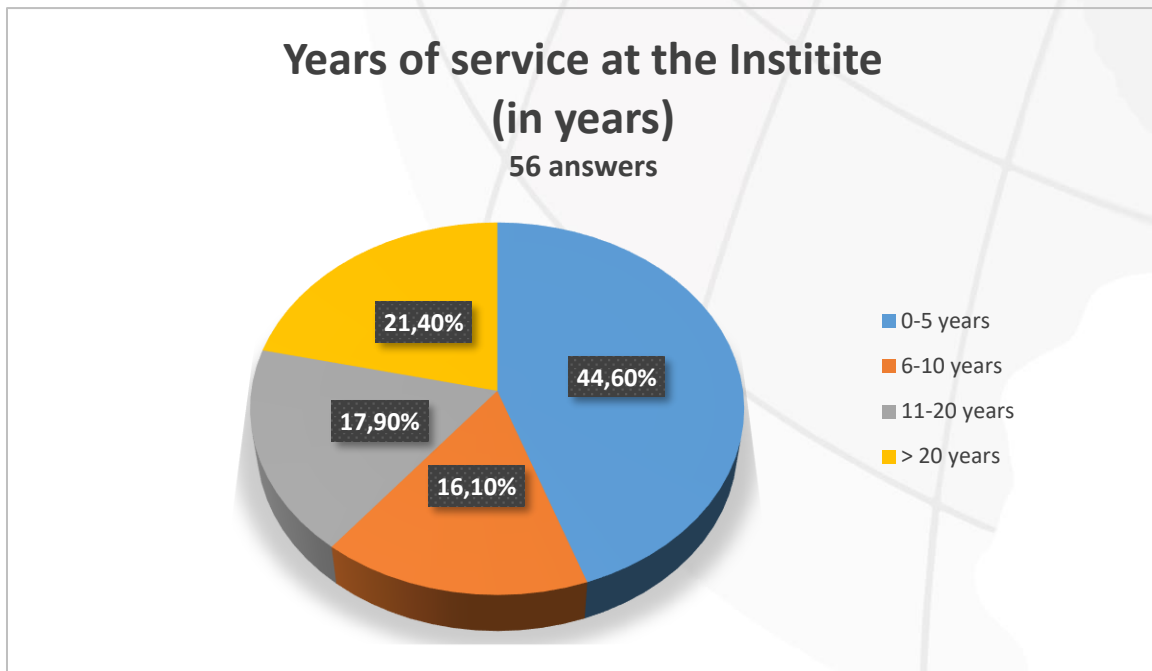


Figure 7. Share (%) of respondents according to years of service with the Institute

The age and functional structure of employment at the Institute is very diverse. The number of employees with long research experience, who can support younger employees, is sufficient to ensure support for young researchers.

The analysis conducted showed that most of the 40 issues included in the survey were considered important by the respondents.

CHARTER AND CODE PRINCIPLES – SIGNIFICANCE BY AVERAGE

3	Professional responsibility	4,71 +/- 0,59	40	Supervision	4,30 +/- 0,95
2	Ethical principles	4,70 +/- 0,54	17	Variations in the chronological order of CVs	4,29 +/- 0,76
24	Working conditions	4,70 +/- 0,54	39	Access to research training and continuous development	4,29 +/- 0,85
26	Funding and salaries	4,68 +/- 0,54	9	Public engagement	4,25 +/- 0,86
1	Research freedom	4,64 +/- 0,59	13	Recruitment	4,25 +/- 0,74
10	Non discrimination	4,55 +/- 0,85	18	Recognition of mobility experience	4,25 +/- 0,90
23	Research environment	4,52 +/- 0,69	31	Intellectual Property Rights	4,25 +/- 0,81
6	Accountability	4,50 +/- 0,76	5	Contractual and legal obligations	4,23 +/- 0,87
25	Stability and permanence of employment	4,50 +/- 0,79	12	Recruitment	4,23 +/- 0,79
32	Co-authorship	4,50 +/- 0,69	33	Teaching	4,21 +/- 0,82
7	Good practice in research	4,48 +/- 0,74	15	Transparency	4,18 +/- 0,96
37	Supervision and managerial duties	4,48 +/- 0,79	21	Postdoctoral appointments	4,16 +/- 0,97
4	Professional attitude	4,46 +/- 0,66	11	Evaluation and appraisal systems	4,14 +/- 0,92
8	Dissemination, exploitation of results	4,43 +/- 0,83	34	Complains and appeals	4,14 +/- 0,92
36	Relation with supervisors	4,43 +/- 0,74	14	Selection	4,13 +/- 0,97
38	Continuing Professional Development	4,41 +/- 0,76	20	Seniority	4,11 +/- 0,82
22	Recognition of the profession	4,39 +/- 0,89	29	Value of mobility	4,11 +/- 0,87
16	Judging merit	4,32 +/- 0,79	27	Gender balance	4,05 +/- 1,07
28	Career development	4,30 +/- 0,83	19	Recognition of qualifications	4,04 +/- 0,83
35	Participation in decision-making bodies	4,30 +/- 0,74	30	Access to career advice	3,71 +/- 1,02

Figure 8. Average significance in descending order

The respondents considered the most important: **professional responsibility, ethical principles, working conditions, financing and remuneration and freedom of research**, and the following as the least important: **access to career counselling, recognition of qualifications, gender balance, value of mobility, work experience** (Figure 8). It should be noted that the average importance according to respondents was below 4 only in the case of question no. 30 (access to career counselling), while the remaining principles were considered very important, i.e. above 4.

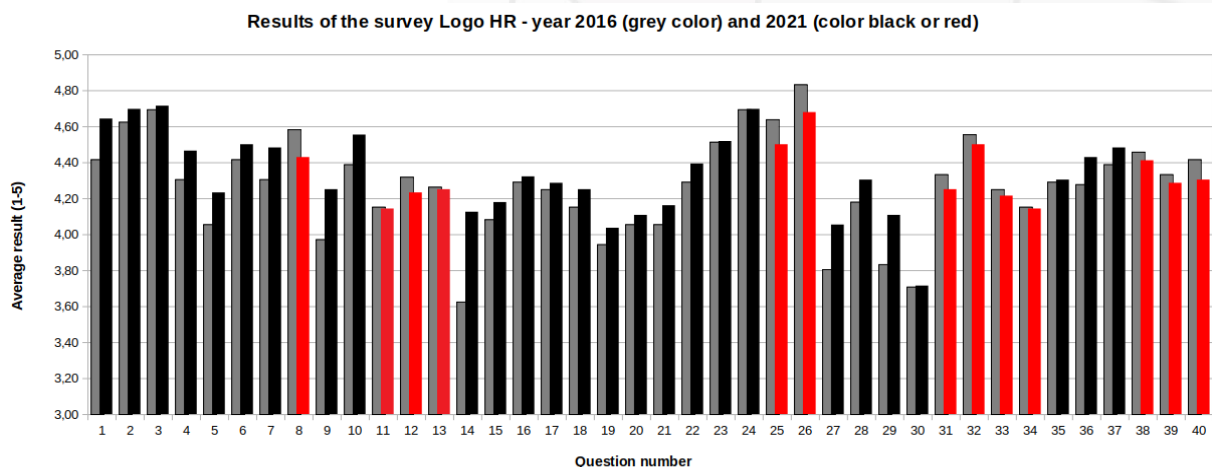


Figure 9. Comparison of average value in the "Significance" category in 2016 and 2021

Compared to 2016, the **significance increased in 27 categories**, i.e. the importance of the given issues increased. On the other hand, **in 13 categories the significance decreased (red)**, which means that given categories became less important for the respondents (Figure 9).

Taking into account the degree of implementation understood as the extent of the application of principles described in the particular question by the respondent when fulfilling his or her professional duties or by the Institute, results are also high.

CHARTER AND CODE PRINCIPLES – IMPLEMENTATION BY AVERAGE

1	Research freedom	4,16	+/-	0,59	21	Postdoctoral appointments	3,80	+/-	0,97
2	Ethical principles	4,14	+/-	0,54	32	Co-authorship	3,80	+/-	0,69
10	Non discrimination	4,14	+/-	0,85	36	Relation with supervisors	3,80	+/-	0,74
3	Professional responsibility	4,07	+/-	0,59	7	Good practice in research	3,77	+/-	0,74
18	Recognition of mobility experience	4,05	+/-	0,90	14	Selection	3,77	+/-	0,97
20	Seniority	4,05	+/-	0,82	25	Stability and permanence of employment	3,77	+/-	0,79
27	Gender balance	4,04	+/-	1,07	33	Teaching	3,77	+/-	0,82
35	Participation in decision-making bodies	4,02	+/-	0,74	8	Dissemination, exploitation of results	3,75	+/-	0,83
12	Recruitment	3,96	+/-	0,79	37	Supervision and managerial duties	3,75	+/-	0,79
13	Recruitment	3,93	+/-	0,74	38	Continuing Professional Development	3,75	+/-	0,76
4	Professional attitude	3,91	+/-	0,66	29	Value of mobility	3,73	+/-	0,87
5	Contractual and legal obligations	3,89	+/-	0,87	23	Research environment	3,66	+/-	0,69
19	Recognition of qualifications	3,89	+/-	0,83	22	Recognition of the profession	3,64	+/-	0,89
6	Accountability	3,88	+/-	0,76	15	Transparency	3,59	+/-	0,96
17	Variations in the chronological order of CVs	3,88	+/-	0,76	11	Evaluation and appraisal systems	3,57	+/-	0,92
31	Intellectual Property Rights	3,88	+/-	0,81	39	Access to research training and continuous development	3,54	+/-	0,85
16	Judging merit	3,87	+/-	0,79	34	Complaints and appeals	3,41	+/-	0,92
9	Public engagement	3,86	+/-	0,86	26	Funding and salaries	3,29	+/-	0,54
24	Working conditions	3,84	+/-	0,54	28	Career development	3,27	+/-	0,83
40	Supervision	3,84	+/-	0,95	30	Access to career advice	2,59	+/-	1,02

Figure 10. Average implementation in descending order

The respondents considered the following as the best implemented: **freedom of research, ethical principles, non-discrimination, professional responsibility and recognition of mobility experience**, while the following were considered as the worst implemented: **access to career counselling, career development, financing and remuneration, complaints and appeals, access to training and continuous development** (Figure 10).

Only in the case of 4 issues, the implementation of which was subject to assessment, the average implementation evaluation was below 3.5. Taking into account the 5-point scale used, this result should be considered high. The lowest average implementation degree was indicated in case of questions 30, 28, 26, 34 and 39. A broader analysis of these issues was performed, and it should be emphasised that the average was below 3 only in case of question no. 30.

Compared to 2016, a **better result was obtained in 28 categories**, i.e. the degree of implementation improved. On the other hand, **in 12 categories a worse result was obtained**, i.e. the degree of implementation deteriorated (Figure 11).

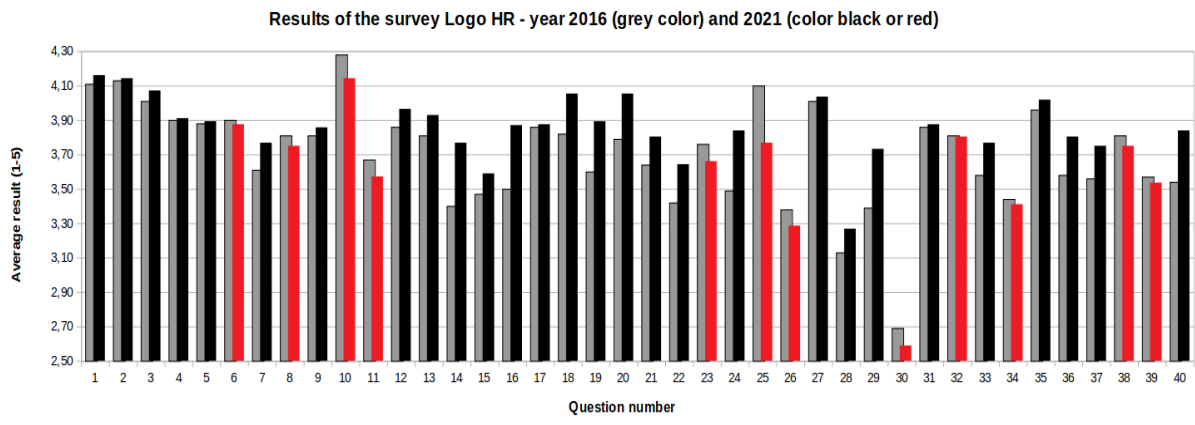


Figure 11. Comparison of average values in the “Degree of implementation” category in 2016 and 2021

CHANGE OF THE AVERAGE RESULT – SURVEY IN 2021 VS. 2016 (IMPLEMENTATION)

16	Judging merit	0,37	1	Research freedom	0,05
14	Selection	0,37	9	Public engagement	0,05
24	Working conditions	0,35	27	Gender balance	0,03
29	Value of mobility	0,34	17	Variations in the chronological order of CVs	0,02
40	Supervision	0,30	31	Intellectual Property Rights	0,02
19	Recognition of qualifications	0,29	2	Ethical principles	0,01
20	Seniority	0,26	5	Contractual and legal obligations	0,01
18	Recognition of mobility experience	0,23	4	Professional attitude	0,01
36	Relation with supervisors	0,22	32	Co-authorship	-0,01
22	Recognition of the profession	0,22	6	Accountability	-0,02
37	Supervision and managerial duties	0,19	34	Complains and appeals	-0,03
33	Teaching	0,19	39	Access to research training and continuous development	-0,03
21	Postdoctoral appointments	0,16	8	Dissemination, exploitation of results	-0,06
7	Good practice in research	0,16	38	Continuing Professional Development	-0,06
28	Career development	0,14	26	Funding and salaries	-0,09
15	Transparency	0,12	11	Evaluation and appraisal systems	-0,10
13	Recruitment	0,12	23	Research environment	-0,10
12	Recruitment	0,10	30	Access to career advice	-0,10
3	Professional responsibility	0,06	10	Non discrimination	-0,14
35	Participation in decision-making bodies	0,06	25	Stability and permanence of employment	-0,33

Figure 12. Increase/decrease in the “Degree of implementation” category in 2021 vs. 2016

When comparing results of the 2021 survey and the 2016 survey, the greatest increase in implementation was in the following categories: **achievement assessment, personnel selection, working conditions, value of mobility** and **scientific supervision**, and the biggest drop in implementation occurred in the following categories: **evaluation systems, research environment, access to career counselling, non-discrimination, stability and durability of employment**.

Detailed survey results are presented in Appendix no. 1 to the Strategy.



5. Evaluation of forty principles of the Charter and the Code

The detailed analysis and the degree of the implementation of particular principles are presented below.

ETHICAL AND PROFESSIONAL ASPECTS

5.1 Research freedom

Research employees of the IG PAS can freely develop their scientific knowledge, taking advantage of the freedom of belief and expression, as well as the freedom to define methods of solving research problems, in accordance with recognized ethical principles and practices. They are independent employees, and their scientific achievements are the result of independent work, during which no regulations related to the protection of intellectual property are violated. The applicable regulations clearly define the principles of research ethics, guaranteeing research freedom, taking into account the limitations that are explicitly presented in internal and external regulations. The IG PAS supports all activities related to bottom-up initiatives presented by researchers as part of key topics and with the consent of their immediate superiors, as well as supports activities related to obtaining funding for their implementation. A creative approach in the research work area is appreciated, and all its expressions are welcome.

Results of the surveys confirm that the aforementioned issue is very important for the employees of the IG PAS. Additionally, the respondents also positively assessed the degree of implementation of the issue in question. None of the fifty-six respondents considered it an insignificant issue. At the same time, in the survey it was emphasized that this aspect is naturally respected by researchers and does not require further regulations. Existing procedures strictly define organizational limitations without violating the research freedom.

Actions required: no.

5.2 Ethical principles

The regulations in place at the Institute explicitly define the ethical dimension, as well as the requirements in this respect for researchers. Each research employee starting cooperation with the Institute is obliged to become familiar with these regulations and to apply them when carrying out research under the auspices of the IG PAS. Ethical issues are considered a priority, which is reflected in adopted internal regulations, i.e. Work Rules, but also in external documents, i.e. the Code of Ethics for Research Workers adopted in the form of a Resolution by the General Assembly of the Polish Academy of Sciences. All documents, including documents governing ethical issues, are available on websites. Research employees may obtain necessary information at the Research Office and the HR Department.



Results of the surveys also confirmed the importance of the aforementioned issue. None of the respondents considered the issue insignificant. Additionally, only 3 employees concluded that the degree of its implementation was low. In this question, comments were presented with respect to the matter of determining the number and order of co-authors of publications within research teams. The institute should, *inter alia*, decide what the minimum contribution is necessary to be presented as a co-author of the publication. It was also noted that the lack of knowledge and teamwork skills was the factor affecting ethical behaviour. Therefore, the development of teamwork competences and knowledge should be the subject of future training.

Actions required: yes.

5.3 Professional responsibility

Research employees build their own image on the national and international stages through their activities. Thus, it is in their generally understood interest that research is relevant to society and does not duplicate research previously carried out elsewhere. The high quality of scientific achievements is a showcase of a researcher, and thus activities of the Institute may only support the work carried out by individual researchers.

At the same time, when analysing the issue of the usefulness of research for society, it should be emphasized that the Institute is focused on conducting basic research. This research is the first intellectual phase on the way towards the development of specific solutions and without them new solutions would be impossible. Thus, the Institute tries to maintain a balance between the expenditure and support for the core activity, as well as applied research, industrial research and development works.

In the survey, only one person considered the issue to be of the low significance, and two respondents evaluated its degree of implementation as low. Taking into account comments of the respondents, it is worthwhile to mention, *inter alia*, frequent problems with access to archival data, or insufficient number of solutions supporting researchers in documenting the results of their research in a way ensuring their reproducibility. In line with the aforementioned comments, the Institute will take further steps to develop the digital repository and DataPortal.

Actions required: yes.

5.4 Professional attitude

The regulations in force at the Institute or the adopted practices fully enable the implementation of the aforementioned issue. To begin with, the Statute of the Institute defines the field of research and the subject of the work carried out. In order to update the knowledge, as well as to facilitate and increase the possibilities of obtaining funding by research employees, various internal activities have been introduced, e.g. posting information on national and international competitions on the Institute's website, which allows fast access to related information. Additionally, the Project Management



Department provides employees with information on pending and planned competitions for research project funding. Employees are also notified of external trainings on the procedure for applying for funding for scientific and research projects.

Considering project supervision, procedures for supervision over the implementation of scientific and research or research and development projects as well as the spending of the funds granted have been introduced. This regulation imposes an obligation to monitor the implementation of the schedule of a scientific and research or research and development project, as well as to control the process of spending funds, as well as the procedures for final settlement of the aforementioned projects. Consequently, activities of the Institute are aimed at establishing an institutional framework allowing improving the process related to the application of this principle by researchers.

This is also confirmed by the results of the survey, as 51 out of 56 respondents considered this issue significant, and 39 respondents highly assessed the implementation. Despite such a high percentage of respondents who positively assessed the implementation of the issue, there were few comments on clear differences in the understanding of strategic goals in individual groups of researchers, especially visible between young doctors and experienced professors. However, it is worthwhile to note that this problem is mainly related to the general long-term research policy of the state.

Actions required: no.

5.5 Contractual and legal obligations

As mentioned with respect to principle no. 3 discussed above, research employees build their own image on the national and international stages through their activities. Consequently, compliance with contracts and all legal requirements is in their generally understood interest. The high quality of scientific achievements is a showcase of a researcher, and thus activities of the Institute may only support the work carried out by individual researchers. Research employees are aware of the importance of these issues and their impact on their research career. Taking into account legal aspects, researchers are supported by the employees of the Procurement Department and the Law Office, in particular with respect to the interpretation of external regulations. All currently applicable internal regulations of the IG PAS are available on the Intranet. Additionally, when new regulations are introduced, employees are notified thereof using electronic means. 46 respondents considered the aforementioned issue significant, and 35 respondents confirmed a high degree of implementation.

Actions required: no.



5.6 Accountability

The principle of careful, transparent and efficient financial management and cooperation with all bodies authorised to monitor research is included, *inter alia*, in the procedure for supervision over the implementation of scientific and research or research and development projects as well as the spending of the funds granted. The funds received for the implementation of most of the tasks or projects undertaken by the IG PAS are public funds, therefore their spending is treated in a special way. Consequently, professional attitude and transparency of actions are required from persons responsible for their use. Additionally, activities resulting from Supervision Procedures and the Public Procurement Law implemented at the Institute are taken.

Only one respondent considered it an insignificant issue, and 39 respondents assessed the degree of implementation of the issue as high. The respondents emphasized an over-bureaucratisation of the process hindering conducting research, but this problem is much broader, and exists in many institutions both from the public and private sectors.

Actions required: no.

5.7 Good practice in research

At present, the issue is implemented through standard OHS procedures resulting from the applicable legal regulations. In addition, trainings on classified and confidential information are carried for employees delegated to carry out the activities in question. Work safety rules presented to employees on a regular basis during periodic OHS trainings in accordance with applicable regulations. The protection of personal data is considered very important – in this area, employees benefit from the support of the Information Security Administrator. Additionally, due to the large amount of field work carried out by the Institute in difficult and even extreme conditions, e.g. in the polar regions, each employee completes additional training required under given conditions. Trainings for employees participating in marine and polar research is especially important. This also refers to the driving license for each employee using a company car. In addition, the Institute has an information security policy and an IT system management instruction including security requirements in relation to personal data processing.

The survey showed that researchers are not fully satisfied with the cooperation with the Technical Support Department in the area of data security – only the critical infrastructure of the Institute is centrally secured. At the same time, centralized protection of research data and IT support in order to protect individual computers used for current work is needed.

Actions required: yes.



5.8 Dissemination, exploitation of results

The dissemination and promotion of results of scientific research is an important element of the activities of the Institute and is fully consistent with the mission of the IG PAS including, *inter alia*, working for the benefit of the society and economic development. In accordance with Article 2 section 1 of the Act of 30 April 2010 on the Polish Academy of Sciences, the mission of the Academy is advancement, promotion, integration and dissemination of Polish science and supporting education and national culture. The Institute places great emphasis on the dissemination of knowledge and effective use of results of research carried out. In this respect, research employees are supported by the Promotion Department and the Science Communication and Education Unit. These units are responsible for promotional and popularization activities of the Institute, including the promotion of the results of the work of research employees. These activities include, *inter alia*, involving employees in popularizing events, promoting research results and popularizing research topics through participation in fairs, exhibitions, science picnics, TV programs and radio broadcasts.

In the survey, only two respondents considered the issue to be of low importance, and 33 respondents confirmed a high degree of implementation. Answers included opinions that a large group of researchers was unable to present results of their work in an accessible way, and dissemination did not bring quick results for researchers. Consequently, the support of the Institute in this respect is crucial for improving the research commercialization process.

Actions required: no.

5.9 Public engagement

The Institute places special emphasis on public engagement, as it is one of the most important factors allowing increasing the effectiveness of disseminating research conducted at the Institute. Such activities carried out by researchers are especially rewarded and appreciated by Directors of the Institute, and are reflected in the projects carried out, including, *inter alia*, those financed from the structural funds. Researchers are supported in the development and implementation of educational activities in a way that is also accessible to people who are not experts in a given field. A clear message is a very important factor and requires a significant attention, commitment and cooperation from both research employees and the administrative sector. Consequently, the implementation of activities in this area is also supported by administrative employees, in particular employees of the Promotion Department and the Science Communication and Education Unit. An example of the public engagement of research employees is the implementation of teaching activities in the original educational project, i.e. Geophysics at school and Geophysics within the walls of the observatory, and during numerous conference and workshop science events sponsored by the Institute.



Only two respondents considered this issue insignificant, and 38 respondents highly assessed the implementation. Additionally, there were opinions that researchers do not experience communication problems in the academic environment. At the same time, there is no “social communication office” equivalent to a press spokesman. In the area of disseminating results among the general public, the Institute has a lot of work to do. One of the respondents emphasized that more financial resources are needed for the Science Communication and Education Unit. At present, activities of this team are based mainly on funds obtained from external sources. Greater involvement of, e.g. external media would also be valuable. Many research institutions in Poland invite journalists to carry out field research together. As a result, individual researchers and the universities/institutes become much more recognizable. Directors of the IG PAS will undoubtedly examine the aforementioned proposals.

Actions required: yes.

5.10 Non discrimination

Procedures applied by the Institute in its functioning do not allow for any expressions of discrimination based on gender, age, ethnic, national and social origin. The community of the Institute is open to new people, regardless of the aforementioned factors, which is confirmed by a highly diverse structure of employees working in research positions at the IG PAS, as well as doctoral school students. The Institute guarantees equal access to positions, equal salaries and opportunities for research career development to everyone. In addition, various activities are taken (promotion and advertising of doctoral studies, e.g. during job and internship fairs or international student workshops, etc.) in order to ensure gender or nationality diversified structure of doctoral students and research employees.

Additionally, the Institute offers equal opportunities for female and male researchers to reconcile professional life with motherhood/fatherhood. Women take the maternity leave they are entitled to, and men take the paternity leave they are entitled to.

The Institute employs researchers of various nationalities. Information on foreigners working/studying at the Institute is presented in Table 2. It is worthwhile to note that forms of employment and remuneration of foreign employees and doctoral students are the same as of other researchers. They also have equal access to research.

The information on equal treatment in employment is made available to all employees of the IG PAS. As a result, the Institute prevents any undesirable behaviour and takes preventive measures to counteract mobbing, *inter alia*, it organizes training for employees in this area. On 17 January 2014, an anti-mobbing policy was introduced based on the order of the Director.



The aforementioned principle can be considered almost fully implemented, but the respondents emphasised the issue of disseminating all information in two languages in order to ensure equal access to information provided to everyone. The situation in this respect is continuously improving, and all new messages or printed documents are prepared in two language versions (PL and EN).

Two respondents considered the issue to be of minor importance and 41 respondents confirmed a high degree of its implementation. Opinions were expressed that taking care of non-discrimination in the workplace also means education, and the Institute offers no training for employees that would consolidate basic knowledge in the area of, e.g. cooperation in multicultural research teams.

Actions required: yes.

Table 2. Foreign employees and doctoral students of the IG PAS in 2016 and 2021

Year	Number of foreign employees and doctoral students	including:
2016	6	Ethiopia – 2
		Germany – 1
		Russia – 1
		India – 1
		Greece – 1
2021	16	India – 6
		Iran – 3
		Ethiopia – 2
		Italy – 2
		Australia – 1
		Germany – 1
		Vietnam – 1



5.11 Evaluation and appraisal system

Professional performance of employees is assessed at every stage of a research career, and this assessment covers both young and independent research employees. Due to the importance of the process, it is governed by the Rules for assessing the research activity of research employees of the Institute of Geophysics, Polish Academy of Sciences, approved by the President of the Polish Academy of Sciences. Based on these rules, the professional performance assessment process is carried out at least every two years. The assessment criteria are known before the evaluation, they are defined in the aforementioned rules. The assessment of research employees is carried out on a regular basis, in a transparent and objective way. At the same time, the progress of research works of doctoral students is assessed by their supervisors. In doctoral schools, an interim assessment is conducted after the second year of education.

As shown by the results of the survey, 45 respondents considered this issue significant, and 29 respondents highly assessed the implementation. Some respondents referred to the participation of external experts in the assessment of scientific achievements in the proposed activities to be undertaken by the Institute.

Actions required: no.

RECRUITMENT AND SELECTION

5.12 Recruitment

Properly defined recruitment procedures are very important for the Institute. This is because they determine the quality of resources and ultimately allow the Institute to achieve a high position. As a result, the IG PAS tries to ensure that the admission standards for researchers, especially at the initial stage of their careers, are clearly defined and facilitate access for the most disadvantaged groups or researchers returning to a research career. In September 2021, the Scientific Board of the Institute of Geophysics, Polish Academy of Sciences updated the *Rules governing competitions for scientific positions in the Institute of Geophysics, Polish Academy of Sciences*. Principles governing recruitment of research employees are laid down in Article 91 of the Act of 25 April 2010 on the Polish Academy of Sciences. Vacancy advertisements are well thought-out and explicitly present the description of the required knowledge and qualifications. Additionally, the OTM-R Policy was introduced at the Institute based on the order 18/2021 of the Director of the IG PAS. The aforementioned regulations guarantee the possibility of obtaining the best research employees.

In the survey, 48 respondents considered this issue significant, and 41 respondents highly assessed the implementation.

Actions required: yes.



5.13 Recruitment (Code)

The issue in question has been partially described in point 12, but it should be added that the Institute conducts open recruitment for research positions. It is impossible to hire an employee to fill a position without an open competition procedure. All information about recruitment of new employees is announced on the website of the Public Information Bulletin of the Ministry of Education and Science, on the EURAXESS website and on the website of the IG PAS. Consequently, in order to meet the needs of the Institute, i.e. recruit the best employees, both experienced and young promising researchers, it is crucial to comply with the regulations in this area, as well as to disseminate information on the recruitment process both on national and international websites.

The results of the survey also confirm the high degree of implementation of these solutions, as 48 respondents recognised these issues as important, and 37 respondents concluded that the implementation degree is high. One of the respondents stated that the Institute needs a clear internal career (promotion) path, possibly without an external competition.

Actions required: yes.

5.14 Selection

Selecting the right candidate is the most important element in the recruitment process and deserves special attention. Consequently, it is very important to continuously adjust this process to changes occurring in economic practice, as well as to adjust to generational changes. Ultimately, the process is to ensure and enable hiring the best employees. The employee is selected in accordance with the adopted regulations. The employee selection process must be performed by competition, and the evaluation is carried out by a committee appointed especially to this end. Experienced employees, both those representing the administrative part and research employees, who provide the Directors with recommendations along with a clear justification, participate in each stage of the assessment. Despite the fact that employees that the Institute needs are highly specialised, which results in a small number of candidates, the recruitment procedures and the entire process are treated in a special way, and the criteria set and their fulfilment by the candidate are always verified.

At the first stage of the recruitment process, applications submitted by candidates are verified in view of their compliance with the competition requirements. If the documents meet the formal requirements of the competition, candidates are invited to an interview. The composition of the recruitment committee is as follows: the Deputy Director for Research, a Manager of the Department for which the employee is to be hired, and an employee appointed by the Director of the Institute, employed in the position at least equivalent to the research position subject to the competition. Such a group of employees selecting a candidate allows maintaining a high level and appropriate quality of the process. The interview involves the verification of the knowledge, as well as qualifications and suitability to work in the position for which the competition is conducted. Some of the interviews are conducted using



electronic communication means (mainly when hiring foreigners). Candidates are notified of the results of the competition.

The aforementioned method of conducting the recruitment process ensures the best choice, and the use of various communication tools during the recruitment process allows including foreigners and people with disabilities in the procedure. As a result, equal access to the process is ensured, regardless of age, gender, origin or degree of disability.

The results of the survey showed that 44 respondents considered it an important issue, and 34 respondents recognised the degree of its implementation as high. In their comments, the respondents noted the importance of the appropriate selection of the competition committee, the composition of which should depend on the position for which the candidate is recruited.

Actions required: yes.

5.15 Transparency

The issue in question is closely related to the issue described in point 14, so the regulations in this respect are the same. As mentioned above, information on the recruitment process and requirements for the candidate is presented in the competition announcement. Thus, in the course of the recruitment procedure, the candidate is informed about the recruitment process and the selection criteria. The prospects for the development of a research employee are set out in the Act on the Polish Academy of Sciences, which regulates the requirements and subsequent stages of a research career, so there is no reason for more regulation in this respect at the Institute.

Due to the specifics of research work, candidates with very narrow, specialized knowledge and experience are searched for. Consequently, the selection criteria as well as the evaluation of the candidates are very simple and transparent.

As shown by the results of the survey, 43 respondents considered this issue significant, and 32 respondents highly assessed the implementation. At the same time, the respondents emphasized the need for providing clear and transparent feedback to candidates, including a description of their strengths and weaknesses.

Actions required: yes.



5.16 Judging merits

Applications received from candidates are always assessed based on clearly defined criteria, well-understood by the evaluation committee. Bibliometric indicators are taken into account, but other criteria also considered, which allows ultimately selecting the right candidate. In practice, the following criteria are usually taken into account: education or previous work in a given field, required scope of knowledge, work experience, years of service, knowledge of and fluency in the English language.

Only 2 respondents considered it an insignificant issue, and 36 respondents highly rated its implementation, which confirms the fact that the criteria for selecting a candidate for a job set by the Institute take into account not only the achievements in the form of the number of publications, but also other accomplishments and skills. It is also typical for changes in the economic realities, including in Polish science, where recruitment criteria are subject to transformation and increasing importance is attached to aspects such as team work skills – especially due to future cooperation in project teams, knowledge transfer, or aspects related to the management of scientific research.

Actions required: no.

5.17 Variations in the chronological order of CVs

The Institute does not have any specific regulations in this respect, but this fact does not cause any discrimination. In terms of employment, aspects such as a break resulting from maternity/paternity or childcare leaves are fully respected. These issues are governed by the Labour Code.

As shown by the results of the survey, no respondent considered this issue insignificant, and 29 respondents highly assessed the implementation.

Actions required: no.

5.18 Recognition of mobility experience

Directors of the IG PAS appreciate the professional experience of research employees in various organizations. Postdoctoral candidates are encouraged to apply for post-doc positions outside Poland. Only 3 respondents considered this issue insignificant, and 45 respondents highly assessed the implementation at the Institute. One of the respondents suggested that mobility could be one of the initial criteria in the research employee evaluation process.

Actions required: no.



5.19 Recognition of qualifications

The experience and qualifications of candidates are one of the most important factors taken into account when hiring employees and are based on all regulations implemented with respect to employment of a research employee, due to the specific nature of work requiring narrow specialist knowledge. As indicated in previous points, recognition of qualifications and their assessment is an important element taken into account when assessing a candidate in the recruitment process.

Only 2 respondents considered this issue insignificant, and 37 respondents highly assessed the implementation at the Institute.

Actions required: no.

5.20 Seniority

The Institute complies fully with this principle, and its activities are aimed at supporting researchers at every stage of their research career. The committee recruiting research employees always evaluates the candidate's achievements and qualifications. This is one of the most important criteria taken into account in the recruitment process, but it is not the only criterion, as seniority should not be disproportionate to research achievements and accomplishments constituting the culmination of research career. Research opportunities among young research employees are also appreciated. This is also confirmed by the opinions of the respondents who indicated in the survey that it is respected in the recruitment process, although it is not strictly regulated. Only 2 respondents considered the issue to be of low importance, and only 1 respondent indicated a low degree of implementation.

Actions required: no.

5.21 Postdoctoral appointments

In accordance with the Polish law, doctoral students are not employees of the Institute, but pursue third-cycle studies at the Institute. As for every position at the IG PAS, a candidate is selected in an open competition. However, it should be emphasized that in practice, talented doctoral students from the IG have relatively higher chances of obtaining a full-time position at the Institute, because they already understand the research work process, have some experience and knowledge of the subject of research conducted by the Institute.

3 respondents considered the issue to be of little importance, and 4 considered the degree of its implementation in regulations and practice of the IG PAS as low.

Actions required: no.



WORKING CONDITIONS AND SOCIAL SECURITY

5.22 Recognition of the profession

In accordance with the Polish law, the Institute has the right to validate the doctoral degree. Validation of the degree takes place when hiring research employees from abroad.

2 respondents considered this issue insignificant, and 32 respondents highly assessed the implementation. Additionally, 10 respondents indicated a low degree of implementation, 8 of whom were less than 35 years of age, which may confirm that this applies more to younger employees.

Actions required: no.

5.23 Research environment

The activities of the Institute are directed towards ensuring the best possible working environment, *inter alia*, by ensuring the appropriate comfort of work, as well as equipment (infrastructure) enabling research. The Institute supports researchers and carries out several activities providing the basis for obtaining funds to ensure appropriate conditions. Certain funds are allocated at the Institute for research topics, and current activities are aimed at improving the process of transferring these funds and their better utilisation for research in progress. Additionally, ensuring proper working conditions is a fundamental task of the Institute's authorities as an employer – thus several works are undertaken to create the best possible housing conditions through the ongoing renovation of individual rooms and the development of IT infrastructure.

Only 1 respondent considered the issue to be of little importance, and 29 considered the degree of its implementation as high.

Actions required: no.

5.24 Working conditions

The aforementioned issue is regulated by various legal acts, including internal regulations. The main document governing these issues is the Act on the Polish Academy of Sciences that grants an additional 10-day leave to research employees. Matters related to health and safety at work are governed by national regulations that must be followed by the employer. In order to meet the expectations of research employees while respecting their diversity, flexible working time has been introduced by enabling starting work between 8:00 and 10:00 hours. At the same time, working hours can be changed at the request of the employee. Due to the COVID-19 pandemic, a hybrid work system has been introduced at the IG PAS – research employees agree days of office work with their direct supervisor, and effects of their work are monitored on an ongoing basis in a manner specified by the direct supervisor.



Almost all respondents (except 2) considered the issue to be important, while 9 respondents considered the degree of its implementation as low. Respondents agreed that the Institute should be more flexible and open to teleworking, also after the COVID-19 pandemic ends.

Actions required: yes.

5.25 Stability and permanence of employment

Employment of a research employee is preceded by a competition announced on the individual site of the Minister competent for science, in the Public Information Bulletin (*Biuletyn Informacji Publicznej*) and on the EURAXESS website of the European Commission. The manner of and the procedure for competitions for particular research positions are determined by the Scientific Board of the Institute. As practice shows, at the Institute, usually young research employees sign contracts of employment for a longer period (instead of the standard trial period). At the same time, national regulations impose restrictions not only on the number of fixed-term contracts, but also on their total duration, creating more favourable employment conditions, in particular for young employees. After the amendment, the employee may conclude only three fixed-term contracts with an employee, and the total duration of these contracts cannot exceed 33 months. Breaks between consecutive contracts are disregarded. Fixed-term contracts are generally used at the initial stage of employment and are determined primarily by obvious considerations related to the verification of the usefulness of the employee hired and confronting the employee's declarations with the actual work. The stability and permanence of employment is very often associated with the financing of the Institute.

7 respondents assessed the degree of the implementation of the issue as low, and 51 considered this issue very important.

Actions required: no.

5.26 Funding and salaries

Employee remuneration is always a crucial issue generating many discussions, which is also reflected in the survey. In most cases, the practice of the Institute tends to promote additional activity and to reward it in the form of prizes and bonuses related to significant broadening the scope of tasks, and additional achievements, such as obtaining projects, the number of publications. It should be emphasized that the Institute manages public funds and subject to limitations imposed by national regulations. Each year, after the beginning of the financial year, the IG PAS (as all research units in the country) receives information about the funds at its disposal in a given year. Employees' remuneration is divided into: basic salary, allowance for years of service, bonuses, special allowances, bonuses for publications and patent activity. Additionally, based on the decision of the Directors of the Institute, a new prize was introduced for outstanding publishing activity. The procedure for awarding this prize is set out in the form of rules (they entered into force in December 2015).



Moreover, in accordance with the Act on the Polish Academy of Sciences:

- research employee, after 3 years of work at the Institute on a full-time basis, shall be entitled to the paid convalescence leave for up to one year;
- research employees are entitled to the allowance for years of service after 3 years of work, and other employees – after 5 years of work;
- employees are entitled to a retirement benefit (salary for 3 months) upon retirement.

Taking into account the above, in comparison with other professions, the structure of the offered remuneration is favourable and ensures additional financial resources for various types of activities. It would be rational to consider salary increases in the science sector, but it must be regulated at the governmental, not organizational, level.

54 respondents considered the issue to be important, while 13 respondents considered the degree of its implementation as low.

Actions required: no.

5.27 Gender balance

The Institute employs 75 research employees and the number of doctoral students is 23 (as at December of 2021) 24 research employees are women and 51 – men, while 11 PhD students are women and 12 – men. The list of positions by gender is presented below:

- Assistants – 8 people (5 women, 3 men);
- Assistant Professors – 30 people (11 women, 19 men);
- Institute Professors – 23 people (4 women, 19 men);
- Professors – 14 people (4 women, 10 men);
- doctoral students – 23 people (11 women, 12 men).

The structure of researchers by age and gender is highly diversified, which can be noticed, for instance, taking into account the information on the people participating in the survey. It is a natural and desirable fact, if only because of the possibility of getting to know various points of view.

Gender balance is crucial for a well-functioning research system. In order to achieve the goals assumed, the Institute must fully use the human capital at its disposal. A key element on the path to gender equality is the appropriate work-life balance. As a result, the Institute creates conditions enabling women to develop, regardless of their involvement in family life. Any signs of the so-called “glass ceilings” and barriers to advancement related to motherhood that hinder the careers of female researchers are eliminated. No discrimination based on gender or attempts to balance the family and the academic life is allowed. The Institute respects the rights of women and is trying to be as flexible as possible in such a way that employees at any stage are able to maintain an appropriate work-life balance, which also refers to male researchers, as conditions supporting balancing home and professional duties should be available to any researcher regardless of their gender, age etc. Many of



the young female researchers employed at the Institute returned to work after their maternity and childcare leaves, and achieved excellent results in research. The activities of the Institute are aimed at creating conditions that enable balancing of the professional and the academic work, for instance by introducing flexible working time and creating equal professional opportunities.

40 respondents considered the issue to be of little importance, and 5 considered the degree of its implementation as low.

Actions required: yes.

5.28 Career development

The Act on the Polish Academy of Sciences sets out the principles for employment of researchers at the Polish Academy of Sciences and subordinated units. The grid of positions for research employees is strictly defined. There are the following positions: assistant, assistant professor, institute professor, professor. At present, the time to obtain new degrees and titles depends to a large extent on the activity of scientists, especially in the early stages of their scientific career. The available possibilities of financing good-quality research from funds obtained outside the Institute allow for a significant acceleration of the career development of young scientists. Our young employees understand this perfectly well and use additional sources of financing with great success. The Institute will continue to support young scientists in obtaining such funds and in the effective implementation of high-quality research.

Only 1 respondent considered the issue to be of little importance. However, it should be emphasised that 13 respondents recognised the degree of its implementation as low. Opinions of respondents were divided – some of them did not see the necessity to create a “mentor” function in the IG PAS, but according to the others, it would be a desirable solution.

Actions required: yes.

5.29 Value of mobility

The issues related to mobility are particularly respected and appreciated at the Institute. We understand mobility both as geographical mobility and mobility between sectors (e.g. between science and industry). A lot of attention was also given to the issues of mobility in the domestic regulations, which create the basis for the development of mobility and stress its importance in science. Activities that increase mobility, in particular through various academic scholarships and visiting scholarships are widely supported. One of the most important objectives of the Institute’s activities is an increase in competitiveness of science on the international arena. It is exactly mobility that is an important driver of the increase in the value of the academic potential. Therefore, it is an extremely important way to expand the knowledge and support the professional development of researchers at any stage of their career. For this reason, any activities related to participation in international conferences, workshops as well as international exchanges are supported. Nevertheless, owing to factors such as gender diversity



and creation of conditions encouraging the balancing of the family and the professional life, various forms of not only geographical mobility but also mobility between sectors are respected, as well as scientific mobility understood as multi-disciplinary nature of the work pursued. The Institute also awards grants for young researchers enabling foreign travel.

It should be emphasised that 43 respondents considered this issue significant. Additionally, 34 respondents considered the degree of the implementation of the issue as high. One of respondents expressed the opinion that an excessive pressure on mobility may result in deterioration of quality of work.

Actions required: no.

5.30 Access to career advice

The Institute supports its employees and graduates of PhD studies organised by the Institute, as far as possible in legal and financial terms. As long as possible, actions are taken in order to retain the most distinguished researchers, both young and more experienced ones. The Institute does not pursue the same activity as universities and therefore it was not justified to create separate structures dedicated to provide career advice and no formal regulations in this respect have been created. Owing to the role of the researchers and the specific nature of the profession, the Institute tries to create conditions to support the researchers in finding their place in the job market without excessive interference. Moreover, the actions are aimed at providing training and continuing professional development opportunities (participation in several domestic and international research projects), as the most important elements allowing developing proper conditions for the development of an individual career path.

As the results of the survey showed, 36 respondents considered the issue to be very important and 13 respondents evaluated the implementation as high. The structure of the responses may also follow from the fact that owing to the nature of the Institute, there is no typical career office and owing to the tasks pursued by the Institute it is not necessary to create such a unit. The Institute may only create conditions and point its researchers to new development opportunities. Moreover, as any employer the Institute is interested in retaining the most distinguished staff and the actions taken are aimed at retaining exactly such employees. Nevertheless, the results of the survey and the postulates presented mostly by young researchers and doctoral students encouraged the authorities of the Institute to provide an even greater support in this area.

Actions required: yes.



5.31 Intellectual Property Rights

In accordance with the Act on the Polish Academy of Sciences, the Scientific Board of the Institute exercises ongoing supervision over the Institute's activity, taking care in particular of the high level of its research activity and development of persons starting their academic career referred to in Article 2 point 3 of the Act of 30 April 2010 on the National Science Centre. Taking into account the above, the Scientific Board adopted the rules for the management of copyrights and related rights, and industrial property rights, as well as the rules for the commercialisation of research and development results. At the same time, it should be noted that intellectual property rights are governed in detail in domestic legislation. Additionally, internal legal acts were introduced in the Institute that form the procedures of conduct with respect to this issue.

The results of the survey showed that 47 respondents considered it an important issue, and 37 respondents recognised the degree of its implementation as high.

Actions required: no.

5.32 Co-authorship

Co-authorship is the ability to cooperate and therefore taking joint action is an important element taken into consideration by the Institute both when it comes to supporting younger colleagues at the start of their professional career, and in their advanced activities and joint projects. Joint activities often result in joint academic papers, series of articles, research etc. The Institute therefore supports cooperation between researchers and responds positively to co-authorship of works. Co-authorship is also an excellent way to introduce younger colleagues to academic activity. Moreover, the multidisciplinary nature of the work and very narrow specialisations, including international projects, naturally "force" the researchers to cooperate both within the organisation and with researchers engaged outside of the Institute.

The survey results showed that only one person considered the issue to be of little importance, while 35 respondents evaluated the implementation of the issue as high.

Actions required: no.

5.33 Teaching

The Institute is engaged in teaching activity to a very limited extent only oriented towards doctoral studies. Therefore, research employees are not burdened with teaching duties, which are performed on a very small scale and concern only employees with a longer academic experience and are additionally remunerated. Consequently, a high teaching burden never occurs at the initial period of academic development. Actions oriented towards training in the area of teaching and holding training



sessions as part of the researchers' professional development are supported. The educational projects, such as EduScience or EduArctic, carried out at the Institute, were an excellent example of these activities.

As the results of the survey showed, 47 respondents considered the issue to be important and 33 respondents evaluated the implementation as high. Respondents emphasised that incentive other than financial incentives for employees running lectures and classes, as well as evaluation of the equality of these lectures and classes, would be a good solution.

Actions required: no.

5.34 Complaints and appeals

The Institute appreciates the importance of processes such as handling complaints and appeals, which are not infrequently an integral element of any organisation. Everyone has a right to express their opinion, if it is not hurtful to others and is based on facts. The actions taken by the Institute allow fair and equal treatment of employees and their problems, which eventually contributes to the improvement of the general quality and environment of the work. The conflicts arising are resolved by the Manager of the organisational unit or the Director. The disciplinary committee at the PAS Institute examines, in accordance with the Statute of the PAS, appeals from the decisions of the Director of the Institute on disciplinary matters of researchers and research and technical employees for gross violations of their duties or offending the dignity of a researcher. The committee comprises 4 members and is elected for a period of 4 years. The passive and active voting rights are vested in all researchers and research and technical employees of the Institute employed on a full-time basis. At least one of the committee members is a person employed on a full-time basis as a full professor (*profesor zwyczajny*). Regulation 1 of the Director of the Institute of Geophysics, PAS of 17.01.2014 on introduction of an anti-harassment policy is also in force. Every employee may file an application to the relevant Committee, if necessary.

In the survey, 43 respondents considered this issue significant, and 29 respondents highly assessed the implementation, while 16 respondents considered the degree of implementation as low. Proposed activities that can be taken by the Institute include, *inter alia*, conflict management trainings or appointing a relevant committee in charge of complaints and appeals. Taking into account a low average for this issue, activities supporting this process are planned.

Actions required: yes.



5.35 Participation in decision-making bodies

The Institute supports researchers' participation in all kinds of forums and international organisations, as it contributes to exchange of experiences, professional development and also indirectly promotes the Institute itself.

None of the respondents considered the issue to be of little importance, while 38 respondents considered the degree of its implementation as high. One of solutions proposed by respondents was organisation of so-called "town-hall meetings" on a monthly basis, by directors of the IG PAS, at which major news would be presented to employees and doctoral students.

Actions required: yes.

TRAINING AND DEVELOPMENT

5.36 Relation with supervisors

The academic supervision is exercised at the Institute over doctoral students and activities in this area are performed by academic tutors/supervisors. At doctoral schools, a supervisor is appointed within 3 months of starting the education. The good practice is that at the recruitment stage, doctoral students are notified of research topics they apply for and of their supervisor. During the first year from starting the education, the doctoral student together with the supervisor draws up an individual research plan and subsequently submits a report on the plan status and implementation on an annual basis. The coordinator of the doctoral school is responsible for verifying relationships and resolving conflicts between supervisors and doctoral students. In case of young research employees subordinated to Department managers, conflicts are resolved by the Department manager or directly by the Director of the IG PAS.

The results of the survey showed that 50 respondents considered the issue to be important and 36 respondents evaluated the implementation as high, which confirms satisfactory degree of implementation of this issue.

Actions required: no.

5.37 Supervision and managerial duties

Directors of the Institute endeavour to ensure that managers of particular departments are academic tutors, mentors, advisors and leaders to their employees, and take care of good relations between the superiors and the employees in particular departments. However, it should be emphasised that these actions are supportive and not instructive. Directors support creation of good atmosphere without imposing specific actions, thus freedom of action is ensured. It should be emphasised that model



relations lead as a result to high efficiency of employees, which is reflected in the number of grants, publications, advancement of the research work and international cooperation.

Only 1 respondent considered the issue to be of low importance, and 34 respondents indicated a high degree of implementation. One of respondents noted that the IG PAS lacks experienced and active researchers in the 40-65 age group.

Actions required: no.

5.38 Continuing professional development

Doing research obligates the researchers to pursue continuing professional development as well as requires openness to new solutions. The interdisciplinary nature of many areas of research forces the researchers to cooperate and to use ever more modern tools and solutions, often created exactly as a result of research. Therefore, this aspect is important and supported by the Institute in every possible way, both by supporting participation in various training courses, seminars, workshops, congresses, as well as by supporting all initiatives and projects that are planned.

The results of the survey showed that 49 respondents considered it an important issue, and 34 respondents recognised the degree of its implementation as high. Respondents agreed that the Institute should continuously support the development of employees and doctoral students. Proposed activities included, *inter alia*, opening a channel enabling employees to report their will to participate in trainings and to obtain related internal financing.

Actions required: yes.

5.39 Access to research training and continuous development

Such activities are pursued at the Institute for instance through dedicated language courses for employees and doctoral students. Due to the specific nature of the tasks performed, no specific training courses are indicated but all forms of improvement of qualifications and continuing development are supported, such as workshops, participation in international projects and involvement in the most advanced research. Moreover, the Project Management Department sends information on the selection of projects or training in obtaining funds and winning finance to persons who are interested in the information. As the results of the survey showed, 44 respondents considered the issue to be important and 27 respondents evaluated the implementation as high.

Actions required: yes.

5.40 Supervision

Annual reporting sessions are an element of supervision of activities of research employees. Participation of international experts and report on each session are an important part of the evaluation and provides information on desired directions of the development of employee.

Actions required: yes.

The table below summarises all principles described above together with information whether actions are required in particular areas in the Action Plan.

AREA	NO.	PRINCIPLE	ACTION
ETHICAL AND PROFESSIONAL ASPECTS	1	Research freedom	No
	2	Ethical principles	Yes
	3	Professional responsibility	yes
	4	Professional attitude	No
	5	Contractual and legal obligations	No
	6	Accountability	No
	7	Good practice in research	yes
	8	Dissemination, exploitation of results	yes
	9	Public engagement	yes
	10	Non discrimination	yes
	11	Evaluation and appraisal system	No
RECRUITMENT AND SELECTION	12	Recruitment	yes
	13	Recruitment (Code)	yes
	14	Selection	yes
	15	Transparency	yes
	16	Judging merits	No
	17	Variations in the chronological order of CVs	No
	18	Recognition of mobility experience	No
	19	Recognition of qualifications	No
	20	Seniority	No
	21	Postdoctoral appointments	No
WORKING CONDITIONS AND SOCIAL SECURITY	22	Recognition of the profession	No
	23	Research environment	No
	24	Working conditions	yes
	25	Stability and permanence of employment	No
	26	Funding and salaries	No
	27	Gender balance	yes
	28	Career development	yes
	29	Value of mobility	No
	30	Access to career advice	yes
	31	Intellectual Property Rights	No
	32	Co-authorship	No
	33	Teaching	No
	34	Complaints and appeals	yes
	35	Participation in decision-making bodies	yes



TRAINING AND DEVELOPMENT	36	Relation with supervisors	No
	37	Supervision and managerial duties	No
	38	Continuing professional development	yes
	39	Access to research training and continuous development	yes
	40	Supervision	yes

6. Summary

During the initial phase of HRS4R, and during the last three years, the IG PAS acquired significant experience and better understanding of what HRS4R means in practice. Even with the guidelines provided by the European Commission and application of good practices of other institutions, the Institute is still in the action learning phase. However, significant effort related to the preparation and implementation of HRS4R was not wasted – as the Institute understood its strengths and weaknesses, this effort had yielded visible results. The HRS4R process proved to be a very useful management tool, in the context of not only the HR strategy itself, but also the overall development strategy of the IG PAS. It effectively supports the activities of the Institute aimed at continuous improvement and the creation of beneficial conditions for research for scientists.

Since its establishment, i.e. for almost 70 years, the IG PAS has been constantly striving for excellence. Several changes that took place over the years have not changed the ambition and mission of the Institute: conducting high-quality research to study geophysical processes for better understanding of the mechanisms controlling the Earth's system and risk management.

For decades, the IG PAS has managed to attract and retain both beginners and experienced researchers from Poland and abroad. The openness of the IG PAS and its employees resulted in many international contacts and research cooperation with institutions and researchers from all over the world, which resulted in joint projects and publications.

It should be emphasized that, in addition to HRS4R, the Institute has implemented two documents, the objectives of which complement the Strategy, i.e. the **OTM-R Policy of open, transparent and merit-based recruitment of researchers**, and the **Gender Equality Plan**.



Results of the survey conducted on 10-21 November 2021

QUESTION	SIGNIFICANCE – BY AVERAGE													
	Overall average	GENDER		AGE		POSITION					SENIORITY			
		F	M	<35	>35	Doctoral student	Assistant	Assistant Professor	Professor of the Institute	Professor	0-5	6-10	11-20	>20
3 Professional responsibility	4.71	4.63	4.75	4.60	4.81	4.80	4.71	4.74	4.69	4.57	4.76	4.44	4.90	4.67
2 Ethical principles	4.70	4.56	4.75	4.40	4.94	4.60	4.57	4.63	4.85	4.86	4.56	4.44	4.90	5.00
24 Working conditions	4.70	4.88	4.63	4.84	4.58	4.90	4.86	4.74	4.38	4.71	4.92	4.67	4.60	4.33
26 Funding and salaries	4.68	4.81	4.63	4.72	4.65	4.70	4.57	4.74	4.69	4.57	4.72	4.78	4.70	4.50
1 Research freedom	4.64	4.69	4.63	4.52	4.74	4.60	4.86	4.63	4.69	4.43	4.68	4.44	4.80	4.58
10 Non discrimination	4.55	4.69	4.50	4.40	4.68	4.60	4.86	4.58	4.54	4.14	4.56	4.56	4.70	4.42
23 Research environment	4.52	4.44	4.55	4.44	4.58	4.90	4.43	4.47	4.46	4.29	4.68	4.11	4.60	4.42
6 Accountability	4.50	4.69	4.43	4.36	4.61	4.60	4.29	4.53	4.69	4.14	4.64	4.22	4.80	4.17
25 Stability and permanence of employment	4.50	4.81	4.38	4.48	4.52	4.70	4.43	4.47	4.38	4.57	4.72	4.11	4.60	4.25
32 Co-authorship	4.50	4.63	4.45	4.48	4.52	4.60	4.57	4.47	4.38	4.57	4.64	4.22	4.50	4.42
7 Good practice in research	4.48	4.44	4.50	4.32	4.61	4.70	4.43	4.42	4.54	4.29	4.56	3.89	4.90	4.42
37 Supervision and managerial duties	4.48	4.63	4.43	4.44	4.52	4.80	4.71	4.37	4.31	4.43	4.56	4.44	4.60	4.25
4 Professional attitude	4.46	4.69	4.38	4.24	4.65	4.10	4.43	4.63	4.54	4.43	4.40	4.22	4.90	4.42
8 Dissemination, exploitation of results	4.43	4.44	4.43	4.24	4.58	4.60	4.14	4.32	4.54	4.57	4.48	4.11	4.90	4.17
36 Relation with supervisors	4.43	4.56	4.38	4.52	4.35	4.90	4.43	4.32	4.08	4.71	4.64	4.56	4.30	4.00
38 Continuing professional development	4.41	4.63	4.33	4.48	4.35	4.70	4.71	4.37	4.15	4.29	4.60	4.44	4.30	4.08
22 Recognition of the profession	4.39	4.56	4.33	4.52	4.29	4.80	4.71	4.42	4.31	3.57	4.60	4.22	4.40	4.08
16 Judging merits	4.32	4.38	4.30	4.40	4.26	4.50	4.43	4.42	3.92	4.43	4.56	3.89	4.30	4.17
28 Career development	4.30	4.63	4.18	4.28	4.32	4.40	4.57	4.37	4.08	4.14	4.52	3.89	4.50	4.00
35 Participation in decision-making bodies	4.30	4.50	4.23	4.16	4.42	4.20	4.29	4.32	4.23	4.57	4.36	3.89	4.50	4.33
40 Supervision	4.30	4.56	4.20	4.16	4.42	4.70	4.43	4.00	4.31	4.43	4.36	4.11	4.60	4.08
17 Variations in the chronological order of CVs	4.29	4.44	4.23	4.16	4.39	4.30	4.29	4.53	4.00	4.14	4.44	3.89	4.30	4.25
39 Access to research training and continuous development	4.29	4.50	4.20	4.36	4.23	4.70	4.57	4.16	3.92	4.43	4.52	4.33	4.00	4.00
9 Public engagement	4.25	4.50	4.15	4.24	4.26	4.50	4.43	4.11	4.23	4.14	4.52	3.89	4.40	3.83
13 Recruitment (Code)	4.25	4.56	4.13	4.12	4.35	4.50	4.00	4.32	4.15	4.14	4.36	4.11	4.60	3.83
18 Recognition of mobility experience	4.25	4.44	4.18	4.20	4.29	4.40	4.00	4.26	4.23	4.29	4.48	4.11	4.10	4.00
31 Intellectual Property Rights	4.25	4.56	4.13	4.08	4.39	4.50	4.29	4.00	4.38	4.29	4.32	3.89	4.60	4.08
5 Contractual and legal obligations	4.23	4.44	4.15	4.08	4.35	4.30	4.00	4.42	4.23	3.86	4.44	3.78	4.70	3.75
12 Recruitment	4.23	4.50	4.13	3.96	4.45	4.30	4.00	4.26	4.23	4.29	4.20	4.11	4.40	4.25
33 Teaching	4.21	4.44	4.13	4.16	4.26	4.20	4.00	4.32	4.00	4.57	4.32	4.22	4.20	4.00
15 Transparency	4.18	4.25	4.15	4.08	4.26	4.50	3.71	4.37	4.00	4.00	4.44	3.89	4.20	3.83
21 Postdoctoral appointments	4.16	4.38	4.08	4.08	4.23	4.50	4.29	4.11	4.08	3.86	4.40	3.89	4.10	3.92
11 Evaluation and appraisal system	4.14	4.38	4.05	4.12	4.16	4.20	4.00	4.21	4.08	4.14	4.36	3.78	4.40	3.75
34 Complaints and appeals	4.14	4.56	3.98	4.32	4.00	4.40	4.57	4.32	3.62	3.86	4.24	4.44	4.30	3.58
14 Selection	4.13	4.44	4.00	3.92	4.29	4.40	4.00	4.00	4.08	4.29	4.20	3.67	4.50	4.00
20 Seniority	4.11	4.31	4.03	4.12	4.10	4.30	4.29	4.21	3.69	4.14	4.36	4.00	3.70	4.00
29 Value of mobility	4.11	4.19	4.08	4.24	4.00	4.40	4.14	4.00	3.92	4.29	4.44	4.00	3.80	3.75
27 Gender balance	4.05	4.63	3.83	4.12	4.00	4.70	4.57	3.89	3.69	3.71	4.44	3.67	4.20	3.42
19 Recognition of qualifications	4.04	4.19	3.98	3.84	4.19	4.20	3.86	4.05	3.92	4.14	4.24	3.44	4.20	3.92
30 Access to career advice	3.71	4.06	3.58	3.76	3.68	4.10	3.86	3.63	3.38	3.86	4.00	3.33	3.60	3.50



QUESTION	IMPLEMENTATION – BY AVERAGE													
	Overall average	GENDER		AGE		POSITION					SENIORITY			
		F	M	<35	>35	Doctoral student	Assistant	Assistant Professor	Professor of the Institute	Professor	0-5	6-10	11-20	>20
1 Research freedom	4.16	4.00	4.23	4.00	4.29	4.40	4.14	4.00	4.23	4.14	4.36	3.56	4.30	4.08
2 Ethical principles	4.14	4.25	4.10	4.24	4.06	4.50	4.29	4.16	3.85	4.00	4.48	3.56	3.90	4.08
10 Non discrimination	4.14	4.25	4.10	3.92	4.32	4.40	3.57	4.21	4.23	4.00	4.12	3.78	4.60	4.08
3 Professional responsibility	4.07	4.19	4.03	3.88	4.23	4.20	4.14	4.05	4.08	3.86	4.16	3.67	4.20	4.08
18 Recognition of mobility experience	4.05	4.00	4.08	3.96	4.13	4.30	3.71	4.05	4.15	3.86	4.12	3.89	4.20	3.92
20 Seniority	4.05	4.19	4.00	3.92	4.16	4.10	4.14	4.05	4.08	3.86	4.04	4.11	4.20	3.92
27 Gender balance	4.04	3.94	4.08	3.84	4.19	3.70	4.14	4.21	4.08	3.86	4.04	4.00	4.30	3.83
35 Participation in decision-making bodies	4.02	4.06	4.00	3.96	4.06	4.20	3.71	4.00	4.08	4.00	4.08	3.67	4.40	3.83
12 Recruitment	3.96	3.94	3.98	3.76	4.13	4.00	4.00	3.89	4.08	3.86	4.04	3.56	4.10	4.00
13 Recruitment (Code)	3.93	4.06	3.88	3.76	4.06	4.10	3.57	3.89	4.08	3.86	3.92	3.89	4.10	3.83
4 Professional attitude	3.91	4.19	3.80	3.76	4.03	3.90	4.14	4.05	3.62	3.86	4.00	3.56	4.00	3.92
5 Contractual and legal obligations	3.89	3.94	3.88	3.88	3.90	4.50	3.86	3.68	3.85	3.71	4.12	3.22	4.00	3.83
19 Recognition of qualifications	3.89	4.00	3.85	3.88	3.90	4.30	3.71	3.84	3.85	3.71	4.00	3.67	4.20	3.58
6 Accountability	3.88	4.00	3.83	3.64	4.06	4.10	3.71	3.84	3.92	3.71	3.92	3.44	4.00	4.00
17 Variations in the chronological order of CVs	3.88	3.94	3.85	3.76	3.97	4.00	3.86	3.89	3.85	3.71	3.96	3.56	4.00	3.83
31 Intellectual Property Rights	3.88	4.13	3.78	3.76	3.97	4.30	3.57	3.84	3.92	3.57	3.96	3.44	4.20	3.75
16 Judging merits	3.87	3.87	3.87	3.74	3.97	4.00	3.83	3.72	3.85	4.14	3.92	3.57	3.90	3.92
9 Public engagement	3.86	4.13	3.75	3.92	3.81	4.50	4.29	3.47	3.54	4.14	4.04	3.44	3.90	3.75
24 Working conditions	3.84	4.06	3.75	3.56	4.06	4.00	3.71	3.58	4.23	3.71	3.92	3.56	4.00	3.75
40 Supervision	3.84	4.06	3.75	3.64	4.00	4.10	3.57	3.68	4.23	3.43	3.88	3.44	4.20	3.75
21 Postdoctoral appointments	3.80	3.81	3.80	3.80	3.81	4.20	3.86	3.63	3.85	3.57	3.88	3.67	3.90	3.67
32 Co-authorship	3.80	3.81	3.80	3.68	3.90	4.40	3.00	3.74	3.85	3.86	4.00	3.56	3.90	3.50
36 Relation with supervisors	3.80	3.88	3.78	3.72	3.87	4.60	3.71	3.42	3.92	3.57	4.04	3.11	4.00	3.67
7 Good practice in research	3.77	3.88	3.73	3.60	3.90	4.20	3.71	3.53	3.69	4.00	3.92	3.00	3.90	3.92
14 Selection	3.77	3.94	3.70	3.60	3.90	3.90	3.71	3.74	3.92	3.43	3.68	4.11	3.90	3.58
25 Stability and permanence of employment	3.77	4.00	3.68	3.52	3.97	4.00	3.71	3.63	3.92	3.57	3.76	3.78	3.90	3.67
33 Teaching	3.77	3.75	3.78	3.64	3.87	3.90	4.14	3.68	3.85	3.29	3.84	3.44	4.10	3.58
8 Dissemination, exploitation of results	3.75	4.06	3.63	3.64	3.84	4.10	4.14	3.53	3.46	4.00	3.84	3.44	3.50	4.00
37 Supervision and managerial duties	3.75	4.00	3.65	3.68	3.81	4.30	3.86	3.47	3.62	3.86	3.96	3.11	3.80	3.75
38 Continuing professional development	3.75	3.94	3.68	3.52	3.94	3.90	3.57	3.79	3.85	3.43	3.80	3.33	4.10	3.67
29 Value of mobility	3.73	3.69	3.75	3.68	3.77	4.10	3.43	3.68	3.69	3.71	3.80	3.67	3.90	3.50
23 Research environment	3.66	3.75	3.63	3.52	3.77	3.90	3.57	3.42	4.00	3.43	3.76	3.33	3.90	3.50
22 Recognition of the profession	3.64	4.00	3.50	3.20	4.00	3.80	3.43	3.47	4.00	3.43	3.72	3.22	4.10	3.42
15 Transparency	3.59	3.69	3.55	3.24	3.87	3.50	3.29	3.58	3.92	3.43	3.56	3.11	4.10	3.58
11 Evaluation and appraisal system	3.57	3.81	3.48	3.52	3.61	3.90	3.43	3.47	3.54	3.57	3.60	3.67	3.50	3.50
39 Access to research training and continuous development	3.54	3.75	3.45	3.36	3.68	3.70	3.29	3.37	3.69	3.71	3.60	3.22	3.90	3.33
34 Complaints and appeals	3.41	3.31	3.45	3.04	3.71	4.00	2.71	3.05	3.77	3.57	3.60	2.33	3.90	3.42
26 Funding and salaries	3.29	3.63	3.15	3.28	3.29	3.70	3.43	3.26	3.08	3.00	3.52	3.22	3.40	2.75
28 Career development	3.27	3.31	3.25	3.12	3.39	3.80	3.43	2.74	3.54	3.29	3.60	2.44	3.20	3.25
30 Access to career advice	2.59	2.38	2.68	2.56	2.61	3.30	2.29	2.21	2.85	2.43	3.00	1.56	2.60	2.50