



HR EXCELLENCE IN RESEARCH



Human Resources Excellence in Research

*Internal Gap Analysis and Action Plan for
Jerzy Haber Institute of Catalysis and Surface Chemistry
of Polish Academy of Sciences (ICSC PAS)*

July 2019

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I. Introduction

1. General information about the Institute

The origins of the present Jerzy Haber Institute of Catalysis and Surface Chemistry of the Polish Academy of Sciences lie in the opening of the Laboratory of Surface Chemistry in 1954, initially as a research unit at the Institute of Physical Chemistry PAS in Warsaw. In 1968, the unit was transformed into the independent Laboratory of Catalysis and Surface Chemistry. In 1978, the Laboratory's status was altered to that of the Institute which would pursue interdisciplinary research of phenomena occurring at gas-solid, gas-liquid and liquid-solid interfaces.

The Institute conducts research combining significant aspects of chemistry, physics, chemical technology, material engineering, biochemistry, biology and medicine. The fundamental theoretical and experimental studies are combined with applied research so that the results obtained can be used directly to improve technological processes. The Institute is equipped with state-of-the-art research facilities, in many cases unique on the national scale.

In 1990, the Institute was granted the right to award doctoral degrees and, in 2000, degrees of 'doktor habilitowany' ('habilitation' rights). In the same year, the International Doctoral Programme was established. Since then, over 120 students have successfully completed their doctoral degree and further 32 students (31.07.2019) are carrying out their PhD research now. In the framework of cooperation with the leading universities of Krakow, students can develop their Master theses at the institute.

In the period 2002-2005, the Institute had the status of the European Center of Excellence "Cracow Research Center of Molecular Catalysis and Soft Matter". The Institute was distinguished with a status of the National Leading Research Centre KNOW in physical sciences for 2012 – 2017 in the framework of the Marian Smoluchowski Krakow Research Consortium, formed with faculties of the Jagiellonian University and the AGH University of Science and Technology, as well as with the Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences. In the 2013 and 2018 evaluation of the quality of Polish research units, the Institute was awarded the A category.

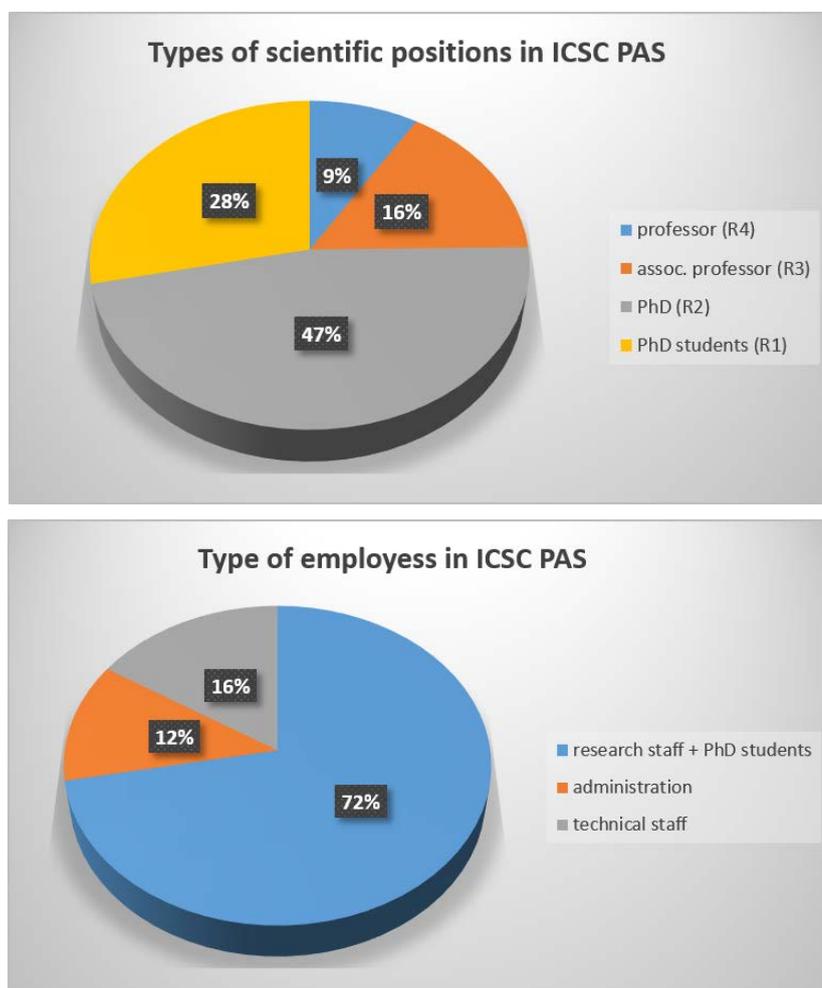
The Institute has a long-standing tradition of animating and coordinating research in the field of catalysis and surface science in Poland. For over fifty years, the Institute has organized the Polish Annual Conference on Catalysis, the key event for the research community in the field. The Institute is involved in extensive international cooperation. These activities include numerous bilateral international collaboration schemes, research projects of diverse programmes of the European Commission and European Economic Area, as well as actions of the COST Initiative.



2. Institute Activity

Currently there are 125 employees at the ICSC PAS (65 women and 60 men) and 32 PhD students (27 women and 5 men), out of which 113 are involved in research (72 women and 41 men).

The structure of the ICSC PAS employees is presented in the figure.



The structure of positions at the Institute is constantly changing as doctoral students and employees are obtaining subsequent degrees and titles.

Scientific advancements in the year 2014-2018

	2014	2015	2016	2017	2018
title of professor	2	-	2	1	1
habilitation degree	2	2	2	1	2
doctoral degree	8	19	6	10	3

The Institute's activity is based on three pillars

I Research

II Education

III Science popularization

I Research

Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences in Krakow has a well-established and documented scientific both country- and world-wide position that has been steadily growing for last 50 years. This is a result from the overlap of several key factors, such as excellent research potential, modern equipment park, fruitful national and foreign scientific cooperation and well-conducted PhD studies.

ICSC PAS is the only scientific institution in Poland and one of very few in the world solely devoted to interdisciplinary studies of phenomena occurring at gas-solid, gas-liquid and liquid-solid interfaces. The fundamental theoretical and experimental studies carried out in the Institute are combined with applied research encompassing catalytic materials and processes for pollutant removal to protect the environment, manufacturing of innovative biomedical materials and the improvement of materials and methods for cultural heritage conservation.

Currently, the research is carried out in ten research groups and five independent laboratories which provide their services to the entire research community. The composition of the research groups, their research topics, information about the cooperation, implemented projects, publications, and equipment are presented on the webpage: <http://www.ik-pan.krakow.pl/Research-groups.61+M52087573ab0.0.html>

Research groups

1. [Theoretical and Experimental Biocatalysis](#)
2. [Heterogeneous catalysis : theory and experiment](#)
3. [Layered Minerals, Mesoporous Oxides, Nanostructures](#)
4. [Catalytic Processes for Clean Energy](#)
5. [Adsorption](#)
6. [Colloids](#)
7. [Soft Matter Nanostructures](#)
8. [Surface Nanostructures](#)
9. [Cultural Heritage Research](#)

Laboratories

1. [XRD and Thermoanalysis Laboratory](#)
2. [Laboratory of Nanostructures and Surfaces](#)
3. [Joint Laboratory of Biotechnology and Enzymatic Catalysis](#)
4. [AFM laboratory](#)
5. [Scanning Electron Microscope Laboratory](#)

The research activities of the Institute are very broad and versatile. The bulk of research encompasses design, synthesis, testing and practical verification of new, advanced materials and processes. In the area of heterogeneous catalysis, major effort is focused at developing of a new, “intelligent” nanomaterials, with well-defined structure-property relations, tunable to the requirements of a particular catalytic reaction. The materials under investigation include new types of oxides, nanodispersed metal catalysts and novel micro- and mesoporous inorganic solids. The work is targeted at application in processing of hydrocarbons, end-of-pipe environmental catalysis, CO₂ utilization, fuel cells and green chemistry reactions, and involves also the description of kinetic and mechanistic aspects of the studied processes. Research into homogeneous and enzymatic catalysis concentrates on bioactive and biomimicking systems. The research of enzymatic systems concentrates at novel catalytic reactions, that introduce both a new fundamental knowledge to enzymology as well as open new routes for synthesis of fine chemicals.

In the field of surface chemistry of dispersed systems, investigations are focused on adsorption phenomena, surfactants, mechanism of foam formation, nano- and colloidal particles interactions, thin polymer layers, encapsulation of active chemical compounds, nanostructured coatings in application for biocompatible materials such as stents or bone implants. Model systems, such as well-defined single crystal surfaces, epitaxial films and nanostructures are studied in view of their catalytic and magnetic applications. An important aspect of the research carried out at ICSC PAS is to provide the theoretical background for experimental studies. The field of expertise ranges from elucidating catalytic reaction mechanisms and modelling the structures of transition metal oxides, composite nanomaterials and enzyme active centres, to describing surfactant adsorption at liquid/gas and liquid/liquid interfaces, and simulating polymer particle adsorption on solid homogenous surfaces. One of the focal points in the research carried out at ICSC PAS is the preservation of the natural environment and cultural heritage. In the latter area our work concentrates on the structure and properties of historic materials, mechanisms of their deterioration, and measures to conserve and protect them.

The high level of research is reflected in the effects of scientific activity. The total scientific achievements of the Institute since 1968 include: about 25 monographs, 2500 scientific publications from the JCR list (according to the Web of Science) quoted ~41 000 times, 88 national and 7 international patents. Annual research reports are available at <http://www.ik-pan.krakow.pl/Annual-reports.152+M52087573ab0.0.html>

The research activity of ICSC PAS have been presented in scientific publications and patents. The results from 2016-2018 are presented below:

Publications

	2014	2015	2016	2017	2018
publications (JCR)	105	94	112	109	130
monographs	1	1	-	1+1ed.	1ed.
chapter in books	5	7	4	4	6
other publications	18	23	21	10	8

Patents

	2014	2015	2016	2017	2018
national	-	-	4	5	-
international	-	-	-	-	-
patent applications	2	9	2	2	4

The current information on publications and patents is published on the websites <http://www.ik-pan.krakow.pl/Publications.53+M52087573ab0.0.html>

The Institute is very active in securing and conducting research projects, financed by the polish budget (statutory project, grants from the Polish funding agencies, currently: 15 (2019) - statutory projects, 3 - National Centre for Research and Development, 4 - Foundation for Polish Science, 1 - Ministry of Science and Higher Education, 33 - National Science Centre), European Union funds (both Structural Funds and EU Framework Programmes for Research and Innovation (currently: 2 Horizon 2020, 1 COST, 2 European Social Found), other international agency (1 Norwegian Research Council) and bilateral research and innovation programmes (5 Bilateral Cooperation PAS, 5 Polish National Agency for Academic Exchange). The list of projects is available at: <http://www.ik-pan.krakow.pl/Projekty-krajowe.161+M5fbc8ba8112.0.html>.

The Institute cooperates with leading institutions in Poland and abroad as apart of many networks and consortia. As an example, it is worth mentioning the selected consortia from recent years: E-RIHS PL (2015), Regional Center of Materials Chemistry (2015), Chemical and Medical Sciences (2011), European Research Institute of Catalysis ERIC (2010), Laboratory of Electrochemistry and Surface Chemistry (2007), Interdisciplinary Center for Physical, National Surface Research Laboratory (2002), Interinstitutional Laboratory of Catalysis and Enzyme Biotechnology (2002).

The Institute actively promotes the results of scientific research both in the academic community and in broadly understood society. The Institute's employees and PhD students present their research results at both national and international conferences. The Table below summarizes the conference activity of our researchers in the last five years.

Conference activity

	2014	2015	2016	2017	2018
plenary & invited lectures	22	20	21	27	22
orals	82	121	73	92	137
posters	229	243	208	140	216

The high international stance of ICSC PAS can be measured by joint publications, conference talks, scientific exchange of our employees and foreign guests with external institutions.

The Table below reflects international cooperation of our researchers and students in numbers.

International cooperation

	2014	2015	2016	2017	2018
publications with foreign authors	38	28	45	39	51
conference presentations with foreign authors	31	46	29	25	57
internships of employees in external institutions	158	138	125	106	122
presentations of invited foreign guests	2	8	4	6	14
organized conferences	3	5	4	2	5

The Institute's employees are also actively involved in the organization and co-organization of national and international conferences and working meetings. One of the most important achievements of the Institute in the field of environmental consolidation is the organization of the Polish Annual Conferences on Catalysis that are very popular (usually attract about 200 people from Poland and abroad). The most important conferences organized by ICSC PAS were: a series of 51 Polish Annual Conferences on Catalysis (organized since 1968), 5th EC Conference "Cultural Heritage Research, and Pan-European Challenge" (2002), 4th International Symposium on Surface Imaging / Spectroscopy at the Solid / Liquid Interface (2015), European School on Interfacial Engineering: Fundamentals, Applications, and Analytical Methods (2017), 8th World Congress on Oxidation Catalysis (2017), 7th Meeting 'X-Ray and other Techniques in Investigations of the Objects of Cultural Heritage' (2018). The international position of the Institute is also demonstrated by the prestigious functions performed by the employees of ICSC PAS: the vice-presidency of EFCATS (European Federation of Catalysis Societies); a membership in the Board of Directors ERIC (European Research Institute on Catalysis); a presidency of ECIS (European Colloid and Interface Society); editorships of "Current Opinion in Colloid and Interface Science"; "Colloids and Surfaces A", "Physicochemical Problems of Mineral Processes"; members of the scientific advisory board of "Journal of Colloid Interface Science", "Catalysis Letters", "Topics in Catalysis", "Surface Innovations", and "Innovations & Impact".

The facilities of the Institute are constantly enriched with unique research equipment. Among the large number of scientific equipment, the following are worth highlighting: various microscopes, apparatus for photocatalytic and photoelectrochemical measurements, Ultra-High-Vacuum systems for surface science analysis, thermal analysis and calorimetric equipment as well as equipment for surface nanostructures and thin films analysis, study of art and cultural heritage preservation, equipment for study of air-sensitive enzymes, various installations for conducting catalytic tests, structural analysis of solid materials, and computer clusters for theoretical calculations. Equipment specifications and measurement details are available at: <http://www.ik-pan.krakow.pl/Facilities.55+M52087573ab0.0.html>. In the recent years, the first experimental beamline employing photoemission electron microscope, PEEM, was launched with the Institute's participation at the National Synchrotron Radiation Center Solaris.

Researchers receive support in administrative, including financial, aspects of their work from dedicated administration units such as Project Department, Department of International Cooperation, Scientific Secretariat and Patent Attorney.

II Education

The Institute has a very rich educational experience. ICSC PAS has opened the PhD studies in 2000. They are conducted on a full-time basis and last for 4 years. The subjects of doctoral thesis offered by ICSC PAS include a range of specialties, both experimental and theoretical, covering: heterogeneous, homogeneous and enzymatic catalysis, synthesis and physicochemistry of nanomaterials, quantum chemistry of catalytic systems and reactions, colloid chemistry, surfactants and dispersed systems, chemistry and plastic technology, organic, inorganic chemistry and technology as well as cultural heritage science. In the years 2008-2012 the Institute implemented the project "Krakow Interdisciplinary PhD-Projects in Nanoscience and Advanced Nanostructures", under which doctoral students carried out their doctoral dissertations in cooperation with foreign centers (including Norway, Sweden, Bulgaria) during the internship. As part of the International Doctoral Studies, 145 graduate students completed the study programme (75 conducting doctoral dissertations at the Institute, 34 from the Rzeszow University of Technology, 36 from the Cracow University of Technology). 98% of graduates completed their studies defending their doctoral dissertation. At present, the Institute educates 31 PhD students at the doctoral studies.

In 2009-2015, the Institute participated in two Interdisciplinary PhD projects:

- 1) as a coordinator – in the project "Molecular sciences for medicine", where 39 PhD students received a PhD in chemical and medical sciences, working under the supervision of two supervisors representing various scientific institutions and various scientific fields.
- 2) as a partner – in the project "Advanced materials for modern technologies and energy of the future" coordinated by the Faculty of Physics and Applied Computer Science AGH, where education and research covered physical, chemical and technological aspects of materials science and modern energy; in this project, 60 doctorates (17 at ICSC PAS) implemented an interdisciplinary scientific program, whose task was to prepare young science adepts for the implementation of interdisciplinary research focused on modern technologies.

Since 2017, the Institute participates in two new Interdisciplinary PhD projects:

- 1) as a coordinator – in the project InterDokMed "PhD Studies in Interdisciplinarity for Innovative Medicine", where 50 PhD students from different units implement a common framework program, covering classes in various fields and translational sciences; dissertations will be conducted under the supervision of two promoters representing different institutions and fields of science.
- 2) as a partner – in the project FCB "Physical, Chemical and Biophysical Foundations of Modern Technologies and Materials Engineering", where the studies offer the opportunity to obtain a degree in the following disciplines: physics, chemistry, biophysics, material engineering and chemical technology.

The Institute provides PhD students with unique conditions for scientific work: modern laboratories, equipped with apparatuses meeting international standards, organizational, substantive and social support. PhD students of the Institute are leaders and investigators of many scientific projects (PRELUDIUM, DOCTUS) and obtain prestigious funded scholarships (including scholarships of the president of the Polish Academy of Sciences, scholarships in TEAM and OPUS projects). Through numerous trips to domestic and foreign conferences, they participate in the life of the scientific community both at home and abroad, winning at the same time prestigious awards and prizes.

In 2016, doctoral studies at the Institute obtained the international accreditation of the European Chemistry Thematic Network (ECTN) and received the status of "Chemistry Doctorate Eurolabel" (as the third center in the country and the only one of the PAS institutes). The doctoral studies at the Institute were awarded many times in the PROPAN competition for the most pro-doctoral institute of the Polish Academy of Sciences (in 2013 the second place, in 2014 and in 2015 the first place, in 2017 the second place, in 2018 the second place).

As an expression of appreciation for the Institute in educational activities, the Institute participated in the implementation of the NanoEIS project "Nanotechnology Education for Industry and Society", FP7-CSA-SA. The project proposed a model curriculum for nanotechnology for first, second and third cycle studies. The full curriculum has been placed in the public domain and is available at:

www.nanoeis.eu/sites/nanoeis.eu/files/downloads/NanoEIS%20Deliverable%20D4-1%20final.pdf .

The Institute takes active part in educating young staff. Under the supervision of the Institute's employees, bachelor's, engineering and master's theses are created. The Institute is a place where students of Krakow universities made their practices and students of Krakow high schools are admitted to apprenticeships.

III Science popularization

The Institute is involved in the promotion of science among the public. It organizes the popular Competition for the prize of Jerzy Haber for master's theses, in the field of chemistry, physics and the borderline of chemistry and biology, chemistry and physics or physics and biology regarding the issues of surface physicochemistry and/or catalysis, which covers all university units in Poland.

For 16 years the Institute has been actively promoting Science through the organization of the annual Open Days. The event is extremely popular among primary and secondary school students as the Institute is visited yearly by approximately 1,000 visitors. The Institute also participates in the organization of the annual Science Festival at the Main Market Square in Krakow, as well as participated in the 18th Science Picnic at the National Stadium in Warsaw. The Institute is also involved in various outreach initiative during which the Institute's employees conduct lectures and experimental shows dedicated for various stages of educational institutions (pre-schools, primary and secondary level). Furthermore, the Institute's employees regularly promote research in training for Polish museum workers organized by the National Institute of Museology and Collection Protection.

II. Internal Gap analysis

1. Internal Review

The scientific policy in the Institute is created by Board of Directors and Group Leaders with approval of Scientific Council as well as individual researchers, working in ten research groups. The Scientific Council (composed of 50% of the institute employees and 50% of outstanding national specialists from universities, external institutes, employees of industry and members of the Polish Academy of Sciences) supervises the Institute's activities on an ongoing basis, in particular ensuring a high level of its scientific activity and the development of people starting their scientific careers. In particular the Scientific Council approves research programs, cooperation with foreign scientific institutions and publishing activities; it also approves the reports on the Institute's activities.

Every year, the Commission for Assessment and Personal Affairs and Promotion of Scientific Council evaluates the scientific activity of the Institute's research staff. Researchers with outstanding achievements are awarded. The assessment is carried out based self-assessment questionnaire, in accordance with the Regulations for the Evaluation of Researchers, Regulations for the Evaluation of Research Groups and the Regulations of Selection of the Best Publications. Selection and evaluation rules were discussed with employees and students and afterwards approved by the Scientific Council. All the regulations are available on the internal web pages of the Institute.

Once every three years, the institute's activities are evaluated by the International Advisory Board of ICSC PAS, which comprises the top scientists in the field of catalysis and surface phenomena. The current members of Board are: Ewa Bulska (Warsaw University, Poland), Gabriele Centi (University of Messina, Italy), Hans Joachim Freund (Fritz-Haber-Institut der Max-Planck-Gesellschaft, Germany), Andrew Howe (Schlumberger Research Centre, Cambridge, UK), Valentin Parmon (Boreskov Institute of Catalysis SB RAS, Russia), Elena Mileva (Institute of Physical Chemistry BAS, Sofia, Bulgaria), Johann Heider (Philipps-Universität Marburg, Germany). The follow-up reports and recommendations are published at the website: <http://www.ik-pan.krakow.pl/International-Advisory-Board.533+M52087573ab0.0.html>.

The financial report on the Institute's activities is evaluated annually by an external auditor and then approved by the authorities of the Polish Academy of Sciences. The Institute's financial results are published in the generally available Court and Economic Monitor.

The Polish Academy of Sciences regularly monitors the activity of its institutions. Every four years, a commission appointed by the Council of Curators assesses the scientific, educational and equipment base of all institutes of Polish Academy of Sciences. ICSC PAS is regularly highly rated by subsequent committees.

The quality of scientific and other activities (e.g. impact on society) of the Institute is regularly assessed by the Polish Committee for the Evaluation of Scientific Units and the Ministry of Science and Higher Education. The scientific evaluation process (so called 'parameterization') of all scientific institutions in Poland is carried out every 4 years (most recently the process took place in 2018 and covered years 2014-2017). According to the regulations, as a result of evaluation, institutions can be labelled either A, B or C (A - the highest, C - the lowest). Outstanding entities from the reference group (associating institutions with a similar profile of activity) could receive a unique category A. ICSC PAS obtained category A.

Projects financed from external sources are controlled by financing institutions, on the principles and according to the rules presented in the terms of the competitions.

2. Methodology of HRS4R

In April 2015, ICSC PAS signed the Declaration of endorsement for “The European Charter for Researchers” and “The Code of Conduct for the Recruitment of Researchers”. This fact was announced verbally on Institute’s seminar and also on the web-page of the ICSC PAS. The second step of preparation for application for the HR Excellence in Human Resources the HR working group (HR WG) was established at the beginning of July 2015. The HR WG, which comprised of M. Witko - Director, T. Borowski - Deputy Director for Research, R. Tokarz-Sobieraj - Deputy Director for Operation, P. Warszyński - Chair of the Scientific Assessment Commission, Z. Adamczyk - Chair of the Stipend and Award Commission, A. Micek-Ilnicka - Head of PhD Studies, M. Szaleniec – representative of adiunct, J. Olszówka - representative of PhD students, M. Wiecech, A. Niedzielska - representatives of the administrative staff) was established with the purpose to perform a gap analysis and prepare the first action plan.

In the period 2015-2016 HR WG prepared two anonymous surveys (July-September 2015 and January 2016) in which researchers evaluated the level of fulfillment at ICSC PAS of the rules included in the Charter and the Code. Results of these surveys were critically analyzed by the HR WG, as well as they were presented and discussed on the forum of the Institute during two separate seminars. Following the broad public discussion of the issues that were identified in the surveys as challenges for ICSC PAS, the working group selected the following eight issues for monitoring and focus of its action:

1. *Ethical and professional principles* – Dissemination and exploitation of results
2. *Recruitment* – Transparency (Code)
3. *Working conditions and social security* – Recognition of the profession
4. *Working conditions and social security* – Research environment
5. *Working conditions and social security* – Working conditions
6. *Working conditions and social security* – Co-authorship
7. *Working conditions and social security* – Complaints / appeals
8. *Training* – Supervision and managerial duties

Based on the public discussion with employees, the HR WG settled an action plan [HSR4R ver.2016](#), which was implemented at ICSC PAS in the period 2016-2019.

Anonymous surveys were continued in 2017 and 2018. Like previous surveys, the last two were prepared with the use of the SurveyMonkey internet_service. Participation in the survey was anonymous with no information on identity of the responder or IP of its computer collected. On the basis of the experience with the 2015&2016 surveys and feedback from colleagues, the HR WG changed the structure of the survey: the number of questions was reduced, a larger scale of grades was introduced, due to the small number of employees in individual groups, the characteristics of respondents were abandoned.

The survey in 2017 & 2018 consisted of 9 closed questions:

7 questions with five plausible answers (in contrast to survey from 2015, 2016 where only four plausible answers were optional), where in parenthesis numerical value ascribed to a given answer which was used in results analysis:

- Totally agree (5)
- Rather agree (4)
- Hard to say (3)
- Rather disagree (2)
- Totally disagree (1).

1 question with number rating scale (1-10), where 1 is for total lack of recognition of professionalism of researchers and 10 - exemplary treatment of researchers as professionals. 1 matrix question about roles of principal investigators in institution- evaluation of one or more row items using the same set of column choices (due to employee data, the question was anonymized).

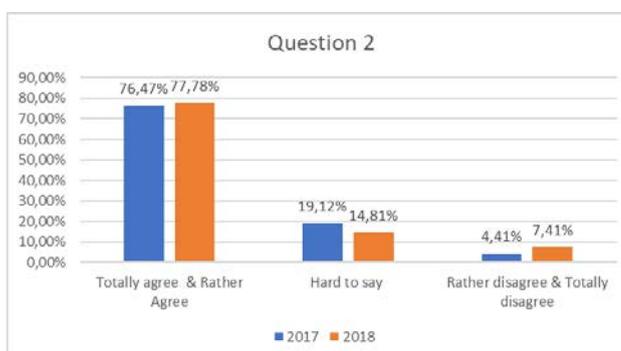
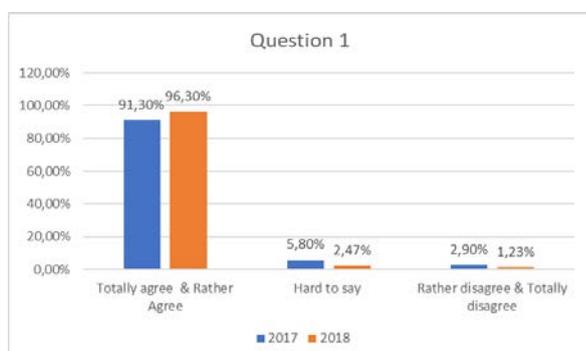
	2015	2016	2017	2018
number of invited responders	131	139	139	140
number of responders	95 (72%)	96 (69%)	69 (50%)	81 (58%)

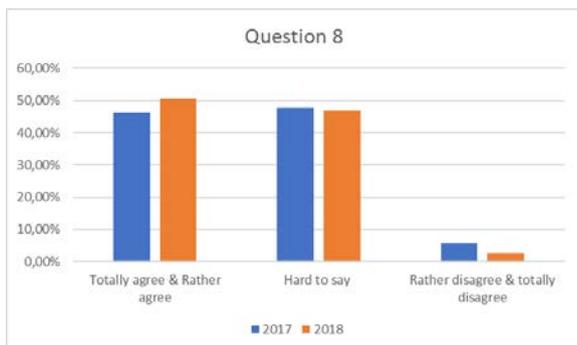
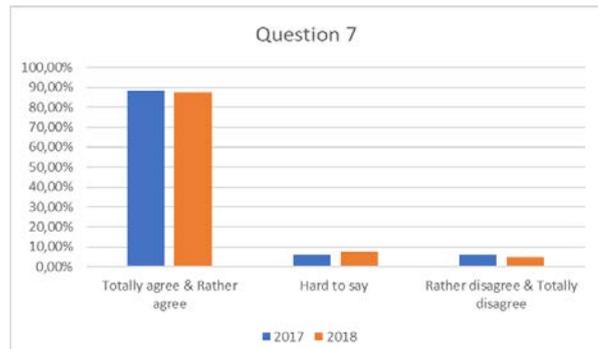
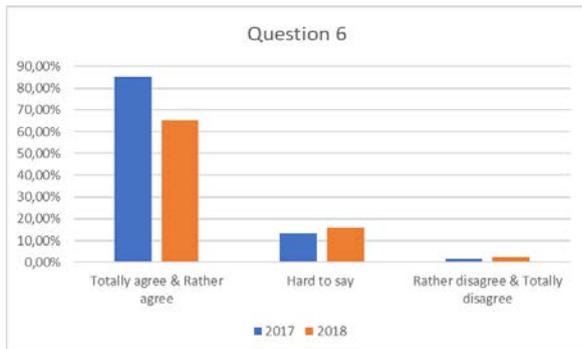
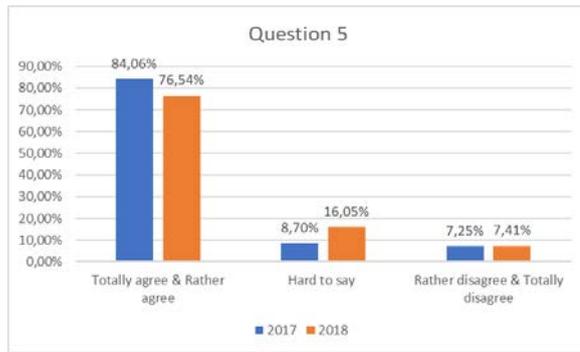
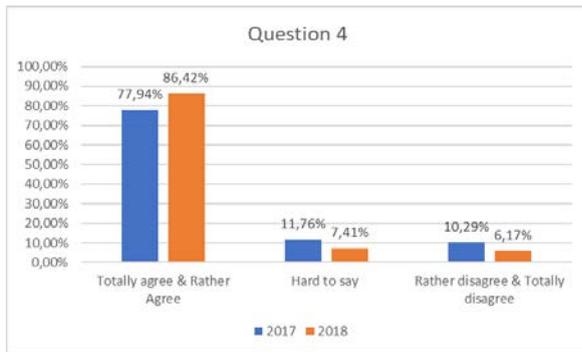
Results of survey conducted in 2017-2018 using questionnaire with extended 5-level scale.

Question	Answers		
	Options	2017	2018
1. In your opinion in the ICSC PAS, researchers properly promote and use the results of scientific research (e.g. through publications, presentations at scientific conferences, commercialization).	Totally agree	57,97% (40)	48,15% (39)
	Rather agree	33,33% (23)	48,15% (39)
	Hard to say	5,80% (4)	2,47% (2)
	Rather disagree	2,90% (2)	1,23% (1)
	Totally disagree	0% (0)	0% (0)
2. In your opinion, employee recruitment procedures in the ICSC PAS, are open, effective, transparent, supportive and comparable to those used in the world.	Totally agree	32,35% (22)	34,57% (28)
	Rather agree	44,12% (30)	43,21% (35)
	Hard to say	19,12% (13)	14,81% (12)
	Rather disagree	4,41% (3)	4,94% (4)
	Totally disagree	0% (0)	2,47% (2)
3. Evaluate to what extent, in your opinion, researchers in the ICSC PAS are treated as professionals in the following relationships (on a scale of 1 to 10: 1-complete lack of recognition of researchers' professionalism, 10-model treatment of researchers as professionals):	Researcher - direct superior	8,25	8,43
	Researcher - an administration employee	7,13	7,18
	Researcher - management	7,59	7,63
	PhD student - supervisor	8,13	8,12
4. In your opinion, the ICSC PAS provides a safe and stimulating environment for research and learning, ensuring access to appropriate equipment and facilities, including remote scientific cooperation	Totally agree	33,82% (23)	34,57% (28)
	Rather agree	44,12% (30)	51,85% (42)
	Hard to say	11,76% (8)	7,41% (6)
	Rather disagree	8,82% (6)	3,70% (3)
	Totally disagree	1,47% (1)	2,47% (2)

5. In your opinion, in the ICSC PAS working conditions are flexible enough (and in accordance with applicable legal regulations and collective agreements) not to constitute an obstacle to achieving scientific success. They enable researchers to combine family life/and having children with work (mobile working hours, part-time work, telework).	Totally agree	43,48% (30)	44,44% (36)
	Rather agree	40,58% (28)	32,10% (26)
	Hard to say	8,70% (6)	16,05% (13)
	Rather disagree	5,80% (4)	4,94% (4)
	Totally disagree	1,45% (1)	2,47% (2)
6. In general in the ICSC PAS, the co-authorship of research is positively assessed and participation in the research of a given researcher, regardless of his status, is properly reflected in the co-authorship of publications, patents, etc.	Totally agree	38,24% (26)	33,33% (27)
	Rather agree	47,06% (32)	32,10% (26)
	Hard to say	13,24% (9)	16,05% (13)
	Rather disagree	1,47% (1)	2,47% (2)
	Totally disagree	0% (0)	0% (0)
7. In your opinion, In your research group in the ICSC PAS, the co-authorship of the research is positively assessed and participation in the research of a given researcher, regardless of his status, is properly reflected in the co-authorship of publications, patents, etc.	Totally agree	56,52% (39)	53,09% (43)
	Rather agree	31,88% (22)	34,57% (28)
	Hard to say	5,80% (4)	7,41% (6)
	Rather disagree	4,35% (3)	4,94% (4)
	Totally disagree	1,45% (1)	0% (0)
8. In your opinion in the ICSC PAS, complaints and conclusions of researchers are appropriate and impartial, including those regarding conflicts between researchers and their superiors.	Totally agree	24,64% (17)	16,46% (13)
	Rather agree	21,74% (15)	34,18% (27)
	Hard to say	47,83% (33)	46,84% (37)
	Rather disagree	5,80% (4)	1,27% (1)
	Totally disagree	0% (0)	1,27% (1)

It can be observed that in both 2017 and 2018, positive answers (totally agree & rather agree) gave more than 76% of respondents for six questions (1, 2, 3, 5, 6, 7). The slight differences in percentages of individual responses are related to different numbers of respondents in 2017 and 2018 - in 2018 there were 11 more. In the questions, where the dominant answers were "rather agree" and not the highest value, introducing auxiliary questions asking what can be changed to improve a given aspect should be considered.





Positive answers appeared in questions 1, 2, 4, 5 about the promotion of scientific research, recruitment procedures, safe work environment and flexible working conditions.

Relationships between employees were highly rated (question 3), in the following order (on a scale of 1-10): researcher-direct superior (average of two years equal 8,34) > PhD students–supervisor (average of two years equal 8,125) > researcher-management (average of two years equal 7,61) > researcher-an administration employee (7,155).

Questions 6 and 7 concerned the evaluation of research co-authorship and their reflection in the co-authorship of publications or patents in general at the Institute and in the research group. Respondents rate co-authorship in their group more positively than in relation to the entire Institute.

In question number 8, where respondents were asked about complaints and solving current problems in Institute, most respondents chose the neutral answer "hard to say" and it can be concluded that this is related to the lack of conflicts in which the entire community of the Institute would be involved and hence the lack of knowledge on this subject among uninterested people.

In 2018 the composition of the HR Working Group was updated:

- prof. dr hab. Małgorzata Witko – Director of the ICSC PAS
- prof. dr hab. Maciej Szaleniec - Deputy Director for Research
- prof. dr hab. Tomasz Borowski - former Deputy Director for Research
- prof. dr hab. Piotr Warszyński - Chair of the Commission for Assessment and Personal Affairs of the Scientific Council of ICSC PAS
- dr hab. Renata Tokarz-Sobieraj - Deputy Director for Operations
- dr hab. Nika Spiridis - Secretary of the Scientific Board, Head of PhD School
- dr hab. Anna Micek-Ilnicka - Head of PhD Studies
- dr hab. Dorota Rutkowska-Żbik - Chair of the Commission for Personal Affairs of the Scientific Council of ICSC PAS
- dr inż. Kinga Freindl - representative of research-technical staff
- dr Anna Pajor-Świerzy - representative of assistants
- mgr Agata Ogórek - scientific secretary
- mgr Aleksandra Niedzielska - member of Projects department
- mgr Magdalena Wieciech-Figura - member of Projects department
- mgr inż. Agnieszka Winiarska - representative of PhD students

Regular work carried out by both the first and the newly established HR Working Group aimed at:

- implementation the plan proposed in the 2016 strategy,
- monitoring changes,
- analyzing the impact of these changes on the work environment,
- analyzing new surveys,
- identifying new challenges,
- discussion of working conditions and other issues during the seminars, meetings as well as individual contacts with employees.

Based on the systematic work of the group the **Internal Review** was created. The Internal Review was focused on the level of implementation of HRS4R principles with a particular focus on those, which had received the lowest overall satisfaction scores in the 2015 & 2016 surveys and on those where - despite the high level of satisfaction of the staff and PhD students - improvements and changes were required.

3. Identified challenges for ICSC PAS

This section presents the summary of the Internal Review findings: expectations, implemented actions, current situation and new action plans to achieve the highest quality.

Ethical and professional aspects

Objectives: Researchers in ICSC PAS should focus their research for the good of mankind and for expanding the frontiers of scientific knowledge, while enjoying the freedom of thought and expression, and the freedom to identify methods by which problems are solved, according to recognized ethical principles and practices.

in particular they should: adhere to the recognized ethical practices and fundamental ethical principles appropriate to their discipline(s) as well as to ethical standards as documented

in the different national, sectoral or institutional Codes of Ethics; be familiar with the strategic goals governing their research environment and funding mechanisms; does not duplicate research previously carried out elsewhere; abide by the principle of intellectual property and joint data ownership in the case of research carried out in collaboration with a supervisor(s) and/or other researchers; should seek all necessary approvals before starting their research or accessing the resources provided; adhere to the principles of sound, transparent and efficient financial management; adopt safe working practices in line with national legislation; ensure that their research activities are made known to society.

Implemented actions:

- trainings on ethics in research were organized for PhD students and employees,
- trainings on IP rules were organized for PhD students and employees,
- Disciplinary Intercessor (Ombudsman) and a Disciplinary Commission were elected, to deal with complaints/appeals of researchers, including those concerning conflicts between supervisor(s) and early-stage researchers. A separate Disciplinary Commission is responsible for investigating and prosecuting claims of misconduct against PhD students. The information about respective Commissions is available at the Institute webpage: <http://www.ik-pan.krakow.pl/ETYKA-DYSCYPLINA.1052+M5fbc8ba8112.0.html>,
- anonymous survey monitoring HR aspects is organized every year,
- since 2018, the Institute's employees have been obliged to submit written declarations for each publication, where each author defines his/her contribution to a given article. A special database was created at the Institute's secretariat to store these statements; is to be helpful in future doctoral and postdoctoral procedures.

Current status:

ICSC PAS is recognized as an employee-friendly place, providing good working conditions.

All applicable legal acts, regulations and ordinances regulating work at the Institute are available on the internal website.

All groups of employees (assistants, PhD students, technicians/ service staff) are represented in the decision-making bodies of the Institute (the Scientific Council, the HR Working Group) to protect and promote their individual and collective interests as professionals and to actively contribute to the work of the institution. Group leaders and independent researchers, i.e. habilitated doctors and full professors, are members of the Collegium & Extended Collegium, which is an advisory body supporting the Director.

The Institute is well equipped with up-to-date instruments for research.

Every year, research workers take part in the development of the research plan for the coming year, which guarantees complete freedom in the implementation of scientific research. The Institute encourages researchers to participate in competitions organized by external agencies to raise funds for individual / group research.

Employees and PhD students participate in weekly institute seminars, where speakers are employees or invited guests from various domestic institutions or foreign guests. In addition, interdisciplinary seminars are organized for doctoral students, at which each student has an opportunity to present and discuss the results of their doctoral dissertation.

The Institute encourages and creates opportunities for scientific exchange and presentation of scientific results at domestic and foreign conferences.

The Institute participates in the ERASMUS+ network as well as National Agency for Academic Exchange Programme. Both PhD students and employees benefit from research and training visits at foreign research institutions financed by these networks. In addition, the Institute regularly hosts visiting students from abroad.

ICSC PAS encourage internal and external scientific collaborations.

Researchers of ICSC PAS have wide scientific contacts with research institutions all over the world (both formal and informal), and both senior and younger researchers reap the benefits from them, e.g. via scientific visits.

Through the organization of Open Days, participation in the Science Festival, organization of lectures and demonstrations in schools, the Institute conducts an extensive campaign aimed at promoting knowledge about scientific research in society.

Code of ethics describing proper conduct in research practices and procedures are available on the internal webpage of the Institute.

Regulations on management of Intellectual Property Rights has been worked out and recommended by the Scientific Council of ICSC PAS and introduced by the appropriate ordinance of the Director of ICSC PAS relatively recently (March 2015).

Patent Attorney provides services to all interested researchers of ICSC PAS. The HR WG is of the opinion that these regulations are adequate and guarantee that researchers at all career stages can reap the benefits of the exploitation of their R&D results.

Over the past two years, based on national legislation, in accordance with the General Data Protection Regulation, the Institute has implemented GDPR procedures.

On May 6, 2019, Jerzy Haber Institute of Catalysis and Surface Chemistry, Polish Academy of Sciences, Henryk Niewodniczański Institute of Nuclear Physics, Polish Academy of Sciences, Maj Institute of Pharmacology, Polish Academy of Sciences, Aleksander Krupkowski Institute of Metallurgy and Materials Science, Polish Academy of Sciences and AGH University of Science and Technology signed the agreement on establishing a PhD school "Krakow Interdisciplinary Doctoral School".

New and continued actions:

- A.8** Continuation of training on ethics.
- A.8** Update of the assessment rules, incl. introducing additional points for mobility.
- A.16** Rules on co-authorship by operators of research equipment will be written down and made publically available.
- A.19** Training on IP rights for employees and PhD students.
- A.22** In connection with the introduction of law "Ustawa 2.0", the Institute is obliged to develop and implement new procedures for granting the degree of doctor or habilitation and regulations governing the creation and operation of a doctoral school.

Recruitment selection

Objectives:

ICSC PAS should establish recruitment procedures which are open, efficient, transparent, supportive and internationally comparable, as well as tailored to the type of positions advertised.

in particular: all available instruments should be used, in particular international or globally accessible web-based resources; advertisements should give a broad description of knowledge and competencies required; career breaks or variations in the chronological order of CVs should not be penalized; a wide range of selection practices should be used, such as external expert assessment and face-to-face interviews; candidates should be informed, prior to the selection, about the recruitment process and the selection criteria; the selection process should take into consideration the whole range of experience of the candidates.

Implemented actions:

- full CV and information of all forms of mobility experience is required from the applicants,
- the recruitment committee in its evaluation of a given candidate considers all aspects of personal development,
- candidates receive useful feedback information about strengths and weaknesses of their application.

Current status:

Rules of the selection procedure in case of employing at the academic position at ICSC PAS were set by Scientific Council of ICSC PAS. The recruitment procedure is described in an information leaflet available on the webpage of the Institute (both in Polish and in English) - <http://www.ik-pan.krakow.pl/Oferty-pracy.148+M5fbc8ba8112.0.html>.

Recruitment of staff for all categories of scientific positions (in accordance with the Act on Polish Academy of Sciences dated 30 April 2010; [Dz.U. Nr 96, poz. 619](#)) is conducted through a competitive selection process.

The recruitment procedures of ICSC PAS are open, transparent, internationally comparable and tailored to the type of position advertised.

Information on the open call for a scientific position in ICSC PAS is posted on the [webpage of the Institute](#), in the [job-post database of the Ministry of Science and Higher Education](#), and on the [EURAXESS](#) portal.

The advertisements include: a job/position title and number of available positions, a short description of research to be participated by the candidate, a list of skills and qualifications, a list of specific requirements to be enclosed in the application such as full CV, information on the possibility of an interview with a candidate during the recruitment, reference to the contact person responsible for providing information on the vacancy, a date of the final result of the competition, an envisaged job starting date; hours per week and intended period of employment in ICSC PAS.

Institute's secretary checks if the applications are complete and arrived on time.

The evaluation process is carried out by the *Commission for Personal Affairs of the Scientific Council of ICSC PAS (referred to as Commission)*, elected by a secret ballot from among the members of the Scientific Council. Current members of the commission can be found

at the [Institute web-page](#) (The composition of the recruitment commission may differ in case of the recruitment process for a full-time job within the project financed from external sources. In such a case, it is set up in accordance with the provisions of the contract with the grant agency).

The selection process takes into consideration the whole range of experience of the candidates, focusing on candidate's overall potential as researcher, their creativity and level of independence; career breaks or variations in the chronological order of CVs are not penalized.

The Commission prepares a ranking list and its recommendation based on the information provided by the applicants and in accordance with the regulations of the above mentioned rules of procedure and recommendations of the [Code of Conduct for the Recruitment of Researchers](#).

Deputy Director for Research informs all candidates about the results of the competition by e-mail, providing each of them with information about the strengths and weaknesses of their applications, winner of the competition, their own position on the ranking list and information about the complaint procedure.

The final ranking list and its justification is presented at the Scientific Council meeting, and subsequently a secret ballot on the support of selected winner takes place.

The Secretary of the Scientific Council prepares the list of recommended candidate for the Director of the Institute and HR department in order to prepare and sign a work contracts.

The time allowed between the advertisement of the vacancy or the call for applications and the deadline for reply is minimum 1 month, which guarantees sufficient time to prepare the required documents.

New and continued actions:

A.15 ICSC PAS developed new OTM-R policy (Open Transparent Merit Based Recruitment), which is available at the webpage: <http://www.ik-pan.krakow.pl/OTM-R.1048+M5fbc8ba8112.0.html>.

The new policy will be propagated among the PhD students and employees and it will be presented at the next Scientific Council (September 2019).

In order to improve the quality of the competition, the following actions will be introduced:

- candidates will be notified by an email acknowledging the receipt of their complete application or a list of the missing documents. The deadline for resubmission of the lacking documents is 3 working days,
- face-to-face interviews (over the internet for foreign candidates) will be introduced if needed,
- clear complaint procedure will be introduced into the recruitment procedure (details in OTM-R policy at the webpage),
- unified templates for job announcement (between EURAXESS and our web-page news system) which decreases administrative burden on employees involved in the preparation of the recruitment as well as minimize the risk for information-discrimination for candidates reaching the recruitment process by different information channels.
- clear and transparent rules for oversight of the bodies responsible for carrying out the recruitment (i.e. Commissions) as well as developed tools that can be used to evaluate recruitment at the stage of External Evaluation of HR.

Working conditions

Objectives:

ICSC PAS should ensure that the most stimulating research environment is created which offers appropriate equipment, facilities and opportunities, including for remote collaboration over research networks, and that the national or sectoral regulations concerning health and safety in research are observed.

in particular it should: ensure that the working conditions for researchers, including for disabled researchers, provide where appropriate the flexibility deemed essential for successful research performance; aim to provide working conditions which allow both women and men researchers to combine family and work, children and career; attention should be paid, inter alia, to flexible working hours, part-time working, tele-working and sabbatical leave, as well as to the necessary financial and administrative provisions governing such arrangements; improve the stability of employment conditions for researchers; ensure that researchers enjoy fair and attractive conditions of funding and/or salaries in accordance with the existing national legislation.

Implemented actions:

- in 2018, the Institute significantly improved the internal Internet: group computers were connected within subnets, which allowed easy data sharing and remote access to devices; an integrated wireless network has been introduced at the Institute,
- during the period 2015-2019 two pay rises were offered,
- the minimum wages of researchers in individual groups have been equated with the wages of university employees, which in turn are regulated by Polish legislation,
- the equipment specifications and measurement details are available at: <http://www.ik-pan.krakow.pl/Facilities.55+M52087573ab0.0.html>.

Current status:

The Institute provides satisfying working conditions to all employees.

Group leaders have freedom as to the way in which the working time of their co-workers is registered. Some research groups and part of the administration of ICSC PAS have been using electronic register of working hours, which gives the so often needed flexibility in working time management when work is done also outside of the ICSC PAS premises.

Scientists in ICSC PAS have free access to professional research equipment.

Access to scientific equipment was facilitated by establishing (and publishing on Internet webpage) access rules and contact persons.

Researchers have on-line access to the major scientific journals in the disciplines represented in research topics covered by ICSC PAS.

Preparation and delivery of lectures for PhD students as well as supervisor duties are taken into account in the self-assessment system, i.e. in the annual evaluation of research staff; lecturing is remunerated since October 2015.

ICSC PAS subsidizes employees' participation in multiple sports activities, i.e. the fee of tennis court and also individual "Multisport" cards, which allow access to a wide range of sports facilities.

Subsidized theater and philharmonic tickets are available for all employees.

Each year a social event called Institute's picnic is organized and it is accompanied by a volleyball match and/or table tennis competition for a trophy of the ICSC PAS Director.

Infrastructure and facilities in Institute are handicapped-user-friendly (without architectural barriers).

Parking is available in front of the Institute.

New and continued actions:

- A.4** Anonymous survey and discussion of the results on the Collegium meeting will be continued.
- A.5** Further development of IT infrastructure will be conducted that will facilitate remote cooperation;
Information on the availability of research equipment will be updated.
- A.6** Regulation of flexible working time will be introduced to work regulation.
- A.20** Legal acts and regulations regulating the work at the institute will be translated into English, to make institutional webpage more friendly for foreign employees.
- A.21** IT data security policy will be introduced.

Training and development

Objectives:

ICSC PAS should draw up, preferably within the framework of their human resources management, a specific career development strategy for researchers at all stages of their career, regardless of their contractual situation, including researchers on fixed-term contracts. It should include the availability of mentors involved in providing support and guidance for the personal and professional development of researchers, thus motivating them and contributing to reducing any insecurity in their professional future.

in particular: one should devote particular attention to the multi-faceted role of researchers as supervisors, mentors, career advisors, leaders, project coordinators, managers or science communicators; the researchers should perform these tasks to the highest professional standards; senior researchers should build up a constructive and positive relationship with the early-stage researchers in order to set the conditions for efficient transfer of knowledge and for the further successful development of the researchers' careers.

Implemented actions:

- anonymous survey monitors the relations between the researchers and administration as well as between various group of researchers,
- anonymous survey monitors young scientists' perception of senior scientists.

Current status:

Institute employees and doctoral students have the opportunity to participate in various workshops and trainings aimed at improving their qualifications.

ICSC provides career counseling for both researchers and administrative staff.

Great importance is attached to training of administrative staff whose competences facilitate

conducting scientific research without administrative burdens.

Over the period 2016-2019 Institute's staff have undertaken a training in the following areas: personal data protection, intellectual property rights, commercialization of research results, financing of research in Poland, possibility of external financing of research, access to library database, access to computer center PL-Grid.

All employees were trained in the principles of occupational health and safety, and some employees were additionally trained in the principles of providing first aid.

Researchers can test themselves in the role of mentors by supervising graduate students who carry out master's theses as well as interns and apprentices.

Researchers conduct lectures for doctoral students, some of them also lectures for students and PhD students of other institutes and Krakow's universities, which is crucial for recruiting young students from outside the Institute.

New and continued actions:

- A.7** Training program for scientist and administration employees will be continued.
- A.11** Mentorship training will be carried out.
- A.15** Employees and PhD students will be familiarized with the employment rules at the Institute, in particular with the new OTM-R policy.
- A.16** HRS4R principles will be propagated at seminars and meetings.
- A.17** Training in open access for researches will be organized.
- A.18** Information activities for grant leaders on project financial management in special seminars
- A.19** Training in knowledge transfer and commercialization of research results will be carried out.

The HR Working Group will analyze the results of all the surveys, monitor implementation of the action plan and audit fulfillment of regulations of the Charter and Code in ICSC PAS. Such an evaluation will be conducted annually and a report from it, possibly with further recommendations, will be put on the web-page of the Institute.

No.	Action	GAP Principle(s)	Timing	Responsible Unit	Indicator(s)/Target(s)	Current Status
1.	ICSC PAS as an employer should ensure that the entry and admission standards for researchers, particularly at the beginning at their careers, are clearly specified and should also facilitate access for disadvantaged groups or for researchers returning to a research career, including teachers (of any level) returning to a research career.	12. Recruitment	IIQ 2016	Head of the evaluation commission, Deputy director for research	Euraxess job offers; http://www.ik-pan.krakow.pl/Oferty-pracy.148+M5fbc8ba8112.0.html	Completed
2.	ICSC PAS should establish recruitment procedures which are open, efficient, transparent, supportive and internationally comparable, as well as tailored to the type of positions advertised; Each recruitment will be followed by a short anonymous survey sent to all applicants, in which they will be asked to which degree they agree with the following statements: 1. time frame of the competition was adequate 2. the feedback information from ICSC PAS was useful Possible answers: definitely disagree, disagree, hard to say, agree, definitely agree.	13. Recruitment (Code)	IIQ2016	Deputy Director	http://www.ik-pan.krakow.pl/Oferty-pracy.148+M5fbc8ba8112.0.html	Completed

3.	Candidates should be informed, prior to the selection, about the recruitment process and the selection criteria, the number of available positions and the career development prospects. They should also be informed after the selection process about the strengths and weaknesses of their applications.	12. Recruitment 15. Transparency (Code)	from IIQ2016 - present	Deputy Director and evaluation commission	Letters are sent by Deputy Director to each participant.	Completed
4.	All researchers engaged in a research career should be recognized as professionals and be treated accordingly.	22. Recognition of the profession 24. Working conditions	since QI 2017-2022	Deputy Director	annual survey reports http://www.ik-pan.krakow.pl/KALENDARIUM.1047+M5fbc8ba8112.0.html	In Progress
5.	ICSC PAS should ensure that the most stimulating research or research training environment is created which offers appropriate equipment, facilities and opportunities, including for remote collaboration over research networks.	23. Research environment 24. Working conditions	2016-2022	Director's proxy for IT issues, Deputy Director	http://www.ik-pan.krakow.pl/Aparatura.55+M5abf688497d.0.html	In Progress
6.	ICSC PAS should ensure that the working conditions for researchers, including for disabled researchers, provide where appropriate the flexibility deemed essential for successful research performance in accordance with existing national legislation and with national or sectoral collective-bargaining agreements. They should aim to provide working conditions which allow both women and men researchers to combine family and work, children and career. Particular attention should be paid, inter alia, to flexible working hours, part-time working, tele-working and sabbatical leave,	24. Working conditions	QI 2016-2022	Research group leaders	/ICSC PAS employees	In Progress

	as well as to the necessary financial and administrative provisions governing such arrangements.					
7.	ICSC PAS should draw up, preferably within the framework of their human resources management, a specific career development strategy for researchers at all stages of their career, regardless of their contractual situation, including for researchers on fixed-term contracts. It should include the availability of mentors involved in providing support and guidance for the personal and professional development of researchers, thus motivating them and contributing to reducing any insecurity in their professional future. All researchers should be made familiar with such provisions and arrangements.	24. Working conditions 28. Career development	2015-2022	Head of PhD School	http://www.ik-pan.krakow.pl/Activities.769+M50c3c9633a8.0.html	In Progress
8.	ICSC PAS must recognize the value of geographical, intersectorial, inter- and trans-disciplinary and virtual mobility as well as mobility between the public and private sector as an important means of enhancing scientific knowledge and professional development at any stage of a researcher's career. Consequently, ICSC PAS should build such options into the specific career development strategy and fully value and acknowledge any mobility experience within their career progression/appraisal system. This also requires that the necessary administrative instruments be put in place to allow the portability of both grants and	24. Working conditions 29. Value of mobility	since IQ 2017-2022	Deputy Director	http://www.ik-pan.krakow.pl/Mobilnosc-edukacyjna-doktorantow-i-pracownikow.725+M5fbc8ba8112.0.html http://www.ik-pan.krakow.pl/Annual-reports.152+M52087573ab0.0.html	In Progress

	social security provisions, in accordance with national legislation.					
9.	ICSC PAS should establish, in compliance with national rules and regulations, appropriate procedures, possibly in the form of an impartial (ombudsman-type) person to deal with complaints/appeals of researchers, including those concerning conflicts between supervisor(s) and early-stage researchers.	24. Working conditions 33. Teaching	IIIQ 2015/ IIIQ 2018	Director, Disciplinary Intercessor	http://www.ik-pan.krakow.pl/ETHICS-DISCIPLINARY.1052+M52087573ab0.0.html	Completed
10.	ICSC PAS should recognize it as wholly legitimate, and indeed desirable, that researchers be represented in the relevant information, consultation and decision-making bodies of the institutions for which they work, so as to protect and promote their individual and collective interests as professionals and to actively contribute to the workings of the institution.	24. Working conditions 35. Participation in decision-making bodies	IVQ 2015	Director	Decree of Director	Completed
11.	Senior researchers should devote particular attention to their multi-faceted role as supervisors, mentors, career advisors, leaders, project coordinators, managers or science communicators. They should perform these tasks to the highest professional standards. With regard to their role as supervisors or mentors of researchers, senior researchers should build up a constructive and positive relationship with the early-stage researchers, in order to set the conditions for efficient transfer of knowledge and for the further successful development of the researchers' careers.	37. Supervision and managerial duties	2015-2022	Deputy Director	Suvey reports - http://www.ik-pan.krakow.pl/Human-Resources.743+M50c3c9633a8.0.html	In Progress

12.	ICSC PAS should ensure that researchers at all career stages reap the benefits of the exploitation (if any) of their R&D results through legal protection and, in particular, through appropriate protection of Intellectual Property Rights, including copyrights.	24. Working conditions 31. Intellectual Property Rights	IQ, IVQ 2015	Director	http://www.ik-pan.krakow.pl/fileadmin/media/dokumenty/akty_prawne/Regulamin%20zarzadzania%20prawami%20autorskimi.pdf	Completed
13.	ICSC PAS should develop strategies, practices and procedures to provide researchers, including those at the beginning of their research careers, with the necessary framework conditions so that they can enjoy the right to be recognised and listed and/or quoted, in the context of their actual contributions, as co-authors of papers, patents, etc, or to publish their own research results independently from their supervisor(s).	24. Working conditions 32. Co-authorship	2015	Director	https://instytucja.pan.pl/images/2016/komisja_etyki/Code_of_Ethics_for_Research_Workers.docx	Completed
14.	ICSC PAS should ensure that teaching duties are adequately remunerated and taken into account in the evaluation/appraisal systems, and that time devoted by senior members of staff to the training of early stage researchers should be counted as part of their teaching commitment.	24. Working conditions 33. Teaching	2015-2022	Director	Documents in Finance and Accounting Department in ICSC PAS	Completed
15.	Implementation of revised OTM-R policy.	13. Recruitment (Code) 14. Selection (Code) 15. Transparency (Code)	2019-2022	Director		New

16.	Promotion of HRS4R among ICSC PAS staff and PhD students.	2. Ethical principles	2019-2022	Deputy Director for Research, HR Working Group	staff and PhD students	New
17.	Training of ICSC PAS scientific staff and PhD students on Open Access.	8. Dissemination, exploitation of results 31. Intellectual Property Rights	IIQ 2020	Scientific secretary	staff and PhD students	New
18.	Information activities for grant leaders on project financial management.	5. Contractual and legal obligations 6. Accountability 26. Funding and salaries	2019-2022	Deputy Director, Projects' Department	scientific staff and PhD students	New
19.	Training in knowledge transfer and commercialization of research results. The employees of Institute should be able to recognize commercial value of their research and to secure their IPs according to regulations established in ICSC PAS. The ethical principles of conducting commercial research will also be a subject of the seminars.	8. Dissemination, exploitation of results 31. Intellectual Property Rights 38. Continuing Professional Development 39. Access to research training and continuous development	2019-2022	Deputy Director for Research	scientific staff and PhD students	New
20.	Translation of ICSC forms and regulations into English As staff of ICSC PAS becomes more international all regulations and forms	10. Non discrimination 24. Working conditions	2019-2022	Deputy Director for Operations	internal webpage	New

	should be accessible to non-polish speaking employees.					
21.	IT data security policy. According to GDPR regulation the new policy ensuring safety of persona data has to be implemented wherever the personal data are being processed.	24. Working conditions	IIIQ 2020	Deputy Director for Operations	new policy (document)	New
22.	Implement of new procedures for granting the degree of doctor or habilitation and regulations governing the creation and operation of a doctoral school. In July 2018 a new Law "Ustawa 2.0" was implemented in Polish legislation, that has revolutionized the system of science and higher education in Poland. The law changed the rules for obtaining degrees and research titles and gave opportunity for doctoral schools formation. ICSC PAS together with other institutions and higher schools from Krakow created new "Krakow Interdisciplinary Doctoral School" (May 2019).	24. Working conditions	IVQ 2019	Director	new policy (document)	New

IV Timeline for implementation of HRS4R in ICSC PAS

The summary of the actions for years 2019-2022 is presented below. They comprise actions continued (C) from the first action plan as well as the new ones (N).

2019		
IV Q	Training on ethics in research. A.8 (C)	Deputy Director, Head of PhD School
	Information activities for grant leaders on project financial management; seminars. A.18 (N)	Deputy Director, Project Department
	Training in HRS4R A.7 (C)	Deputy Director, HR WG, Head of PhD School
	Implementation of revised OTM-R policy; seminar, evaluation committee, Research Council. A.7 (C)	Director
	Implementation of new procedures for granting the degree of doctor or habilitation and regulations governing the creation and operation of a doctoral school. A.22 (N)	Director
2020		
I Q	Annual survey on key HR aspects with possible adjustments of activities. A.11 (C); A.8 (C); A.4 (C)	Deputy Director, HR WG
	Amendments to the work regulations A.6 (C)	Director, Group leader
	Training on Open Access. A.17 (N)	Scientific secretary
II Q	Training in knowledge transfer and commercialization of research results. A.19 (N)	Deputy Director, HR WG, Head of PhD School
III Q	Implementation of IT data security policy. A.21	Deputy Director
	Translation of ICSC form and regulation into English – partially. A.20 (N)	Deputy Director
IV Q	Information activities for grant leaders on project financial management. A.18 (N)	Deputy Director, Project Department
	Training in HRS4R. A.7 (C)	Deputy Director, HR WG, Head of PhD School
2021		
I Q	Annual survey on key HR aspects with possible adjustments of activities. A.11 (C); A.8 (C); A.4 (C)	Deputy Director, HR WG
II Q	Translation of ICSC form and regulation into English – final results. A.20 (N)	Deputy Director
III Q	Training on ethics in research. A.8 (C)	Deputy Director, Head of PhD School
IV Q	Information activities for grant leaders on project financial management. A.18 (N)	Deputy Director, Project Department
	Training in HRS4R A.7 (C)	Deputy Director, HR WG, Head of PhD

		School
2022		
I Q	Annual survey on key HR aspects with possible adjustments of activities. A.11 (C); A.8 (C); A.4 (C)	Deputy Director, HR WG
II Q	Development of IT infrastructure that will facilitate remote collaboration; A.5 (C)	Deputy Director
	Training in knowledge transfer and commercial research. A.19	Deputy Director, HR WG, Head of PhD