



**INSTITUTE OF METALLURGY
AND MATERIALS SCIENCE
TO THE EUROPEAN CHARTER
FOR RESEARCHERS
AND THE CODE OF CONDUCTED
FOR RECRUITMENT OF RESEARCHERS**

Report on the Implementation of the recommendation of the European Commission to obtain the Logo: HR Excellence in Research

Kraków, May 11, 2016

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1. Introduction and methodology

1.1 About the Institute

The Institute began operations in 1952. Since its appointment by the Department of Metals, it was a part of the Institute of Fundamental Technological Research of the Polish Academy of Sciences in Warsaw, located in Krakow. In 1969, the Department of Metals was transformed into the Department of Fundamentals of Metallurgy, in 1977 it became the Institute of Fundamentals of Metallurgy and finally, in 1994, it was converted into the Aleksander Krupkowski Institute of Metallurgy and Materials Science of Polish Academy of Sciences (IMMS PAS).

For many years, the basic research activity of Institute focused on the study of metallic materials including processes of pyro-, electro- and hydrometallurgy, heat treatment and plastic deformation. Ongoing research, primarily of a fundamental nature, that was conducive to the development of their own research staff, and close cooperation with industry and research institutes (Institute of Non-Ferrous Metals, Institute of Ferrous Metallurgy) was one of the priorities of the institution. An important role in the activities of the Institute was the development of international cooperation.

The Institute gradually developed the research that was conducted over the years and which is now focused on four basic priorities: environment friendly technologies and materials, amorphous, nano- and microcrystalline materials, knowledge based functional materials and development of research tools and diagnostic techniques.

Since its inception, the Institute has studied research equipment of the highest international standards. However, a great change of the infrastructure of the Institute began after the Polish accession to the European Union. As a result, the Structural Funds and other EU programs was able to largely replace research equipment which allowed the Institute to raise their research to a much higher level.

For years, researchers of the Institute of Metallurgy and Materials Science have participated in many national and international research programs with other science and research institutions from Poland and other countries. This year it is participating in the IMMS PAS 65 project that is being financed by National Science Centre, National Centre of Research and Development, Ministry of Science and High Education, United Europe (Structural Funds) (7) and Norwegian Financial Mechanism (1).

The education of young scientists has been carried out in the institute through doctoral study (DS). The following have the most popular areas of study in recent years:

- 1) Doctoral studies in materials engineering with English as the lecturer language financed from the Structural Funds – conducted by IMMS PAS.*
- 2) Environmental doctoral studies in materials engineering- conducted by the Institute and Jagiellonian University.*

This type of education has been continued in materials engineering and also metallurgy. Studies are carried out by the Institute with the help of the Institute's researchers and scientists. Additionally, the education of university students is performed in the form of month practices. Last year (2015), 16 students had the practices, and six conducted experiments for his/her master's thesis.

IMMS PAS employs 89 researchers and members of staff including 10 professors (1 professor is a member of PAS), 10 associate professors of PAS, 21 assistant professors and 48 administration and technical persons. Last year (2015) the Institute hosted 15 foreign researchers.

In 2012, IMMS PAS celebrated its 60th anniversary, under the honorary patronage of the President of the Polish Academy of Sciences. On this occasion, twenty six of our scientific and technical staff were decorated with various state medals.

Three Institute employees have received gold medals for their inventions at international fairs. In 2005, during the Fair of Inventions and New Technologies, Concour Leppin was recognized for the Model of the Polish system of long-term cardiac support, in Paris. In 2008, for the Composite Diamond and its production process, on 57 Exhibition of Innovation, Research and New Technologies "BRUSSELS INNOVA in Brussels and in 2009, for the pneumatic chamber cardiac support during the 53rd International Fair of Inventions" Eureka " also in Brussels .

1.2 Methodology of study

1.2.1 Overview of tools applied

To develop an action plan of IMMS PAS aimed at introducing rules of the C&C, the following actions were undertaken:

- a) Establishment of an Evaluation Working Group
- b) Analysis and study of key documents
- c) Studies of convergences to and deviations from the Charter and Code principles and existing in-house procedures
- d) Final internal analysis and the preparation of the action plan

1.2.2 Evaluation working group

A working group was created to evaluation purposes, to which were appointed representatives of the academic staff, administrative and doctoral students of the IMMS PAS including:

- Coordination: Prof. Dr. hab. Paweł ZIĘBA - Director of IMIM PAS,
- Professor: Prof. Dr. hab. Władysław GAŚSIOR – Research Director
- Professor PAS, Dr hab. Wojciech Maziarz – Deputy Director
- Monika SKOWRON - HR manager
- Mikołaj MITKA - Chairman of the Board of doctoral students

Based on the internal regulations of the Institute and key documents (see below), the working group developed an Action Plan, which set out proposals for changes to be carried to the internal rules of the Institute that were consistent with those that are contained in the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers in four areas:

- I. Ethical and professional responsibility of researchers;
- II. Recruitment;
- III. Working conditions;
- IV. Research career training and development.

1.2.3 Desk research of key documents

The first step in the internal gap analysis was a meticulous comparison analysis of the provisions of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (C&C)

and the operations of the IMMS PAS. The analysis was conducted internally on the basis of the following documents:

1. Code of Ethics Scientist
2. Act on Degrees and Academic Title
3. Statute of the Institute of Metallurgy and Materials Science (IMMS PAS)
4. Provisions of Occupational Health and Safety
5. Polish and International Law
6. Act of the Polish Academy of Sciences,
7. Act of Higher Education
8. Principles of Financing Science Act
9. Public Finance Act
10. Labour Code
11. Regulation of the Minister of Internal Affairs and Administration
12. Internal rules of IMMS PAS

Based on these documents, the internal analysis of compatibility and divergences was conducted and the plan action was proposed.

2. Internal analysis of compatibility and divergences

2.1 General principles and requirements applicable to researchers

1. C&C principle - Research freedom:

Researchers 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 recognised ethical principles and practices. Researchers should, however, recognise the limitations to this freedom that could arise as a result of particular research circumstances (including supervision/guidance/management) or operational constraints, e.g. for budgetary or infrastructural reasons or, especially in the industrial sector, for reasons of intellectual property protection. Such limitations should not, however, contravene recognised ethical principles and practices, to which researchers have to adhere.

Institutional rules and/or practices:

IMMS PAS scientists conduct their research, the subject of which complies with the principles contained in the Code of Ethics Scientist, the Statute of the Institute, the Provisions of Occupational Health and Safety, Polish and International Law and the Acts of: the Polish Academy of Sciences, Higher Education, the Principles of Financing Science and the Public Finance Act. They have the freedom to propose research topics, which expands scientific knowledge. However, these proposals must be consistent with the research program of the Institute, which is discussed, evaluated and accepted by the Scientific Council of the Institute. In the case of individual research projects, which are funded by the European Union or by the Polish Government, research interests are in line with ethical standards and other restrictions that result from implementing rules for specific projects and consciously give up some of their rights. Similarly, in matters of health and scientific management, the overriding goal of scientists is to the proper functioning of the Institute and the promotion of young scientists in accordance with the cited regulations and legal acts. Scientists are aware of the limitations that result from the protection of intellectual property rights and accept these rules.

Actions required:

None.

2. C&C principle - Ethical principles:

Researchers should adhere to the recognised 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.

The Institute operates under the Act of the Polish Academy of Sciences, in which art. 39 explicitly regulates the rules of ethical conduct that should be used by employees. In addition, the Committee for Ethics at the Polish Academy of Sciences has developed a Code of Ethics Scientist with a recommendation for use in the Institutes of Sciences and Universities. The Code is based on the European Code of Conduct for Research Integrity, which appears on the website of the Institute. The Institute's researchers are obliged to comply with the rules and recommendations contained in all of the above mentioned documents and use them in their work.

Actions required:

Seminar on Ethical Principles.

3. C&C principle - Professional responsibility:

Researchers should make every effort to ensure that their research is relevant to society and does not duplicate research previously carried out elsewhere. They must avoid plagiarism of any kind and 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. The need to validate new observations by showing that experiments are reproducible should not be interpreted as plagiarism, provided that the data to be confirmed are explicitly quoted. Researchers should ensure, if any aspect of their work is delegated, that the person to whom it is delegated has the competence to carry it out.

Institutional rules and/or practices:

Professional responsibility of scientists is precisely defined in the Code of Ethics Scientist developed by the Ethics Committee of Sciences, the Act of the Polish Academy of Sciences, the Labour Code, contract work and the internal rules of IMMS PAS. Research conducted at IMMS PAS can be divided into three areas; survey pioneering, for which there is no experimental data; survey specific materials of a utilitarian nature, which are conducted in various research laboratories in the world (graph); out checks or complementary, which complement, verify or investigate properties of certain materials with different techniques and research. In the latter case, which is research supporting the results of other studies, researchers in publications clearly specify why these studies are performed quoting and analysing all that have been made previously by other authors. This presentation is fully consistent with ethical principles and to avoid being accused of plagiarism. According to the rules of ethics copyright, the results obtained have all the people of the research team actively participating in the proposed research and the development of research methods and analysis of the results obtained. In the case of cooperation with other institutions, universities and companies, copyright shall be determined in bilateral agreements in the case of the collaboration of many institutions created to solve a specific problem, in multilateral agreements. Access to research results, prior to their use or patenting have only person appointed to cooperate with a high degree of confidence. These issues concerning the use of the test results of people working at the Institute are defined in the management of rights to authors of the Scientific Council Resolution at IMMS PAS of 12 March 2015. The regulations have been included not only for the standards for collaboration between those employed in the unit but also external entities. Any violation of the ownership of the copyright to the research results are to be penalized by the Law of 6 June 1997. - Criminal Code. Employees are also subject to liability ordinal accordance with the Act of 26 June 1974

- Labour Code. Apart from criminal liability, ordinal against an employee may be initiated disciplinary proceedings in accordance with the Statute of the Institute.

Actions required:

Transferring employees to e-mail with a reminder of the Code of Ethics of the Scientific Employee referred to Resolution No. 10/2012 of the General Assembly of the Academy of Sciences on 13 December 2012.

4. C&C principle - Professional responsibility:

Researchers should be familiar with the strategic goals governing their research environment and funding mechanisms, and should seek all necessary approvals before starting their research or accessing the resources provided. They should inform their employers, funders or supervisor when their research project is delayed, redefined or completed, or give notice if it is to be terminated earlier or suspended for whatever reason.

Institutional rules and/or practices:

Research funding is an issue for well-known scientists of the Institute and research interests are in line with global research trends. Institute researchers conduct research to provide data in unexplored or little explored areas. The research is financed by the Polish government, industry, the European Union (Structural Funds) and the Norwegian Financial Mechanism. All research carried out at IMMS PAS must obtain the consent of the Director and/or the Scientific Council, which is equivalent to a permit for their operation. The Institute does not carry out testing of materials containing hazardous substances, so special licenses are not required. Studies using X-rays are performed on professional apparatus ensuring worker safety. For other research projects, the authors of the projects must be in a professional plan expenses, because the financial plans are very carefully analyzed and evaluated by the reviewers. In the case of the observed shortcomings, applications are rejected. All researchers pursuing studies are obliged to inform employers and funders about the difficulties in the implementation and testing of the proposed modifications. In addition, difficulties with the research are described in the reports of the partial refereed and periodic seminars.

Actions required:

None

5. C&C principle - Contractual and legal obligations

Researchers at all levels must be familiar with the national, sectoral or institutional regulations governing training and/or working conditions. This includes Intellectual Property Rights regulations, and the requirements and conditions of any sponsor or funders, independently of the nature of their contract. Researchers should adhere to such regulations by delivering the required results (e.g. thesis, publications, patents, reports, new products development, etc.) as set out in the terms and conditions of the contract or equivalent document.

Institutional rules and/or practices:

Researchers at the Institute understand and respect the rules governing working conditions in force in the country, including intellectual property rights and resulting agreements between the cooperating scientific institutions or sponsors. Information about the results of research conducted in the projects, doctoral work, expertise, etc. are made available to authorized and interested parties. The scope of the

available research results is determined in individual agreements between cooperating institutions. The Institute used the provisions of the Act of 4 February 1994 on Copyright and Related Rights and the Law of 30 June 2000 for Industrial Property Law. In addition, in-house staff of the Institute Rules apply rights management (Resolution of the Council of Scientific IMMS PAS dated 12 March 2015), which were included standards for cooperation both between persons working in the unit and external entities.

Actions required:

The organization of a seminar in 2016 on the sharing of research results, implementation of agreements and intellectual property rights, industrial property rights and the basis of copyright law.

6. C&C principle - Accountability

Researchers need to be aware that they are accountable towards their employers, funders or other related public or private bodies as well as, on more ethical grounds, towards society as a whole. In particular, researchers funded by public funds are also accountable for the efficient use of taxpayers' money. Consequently, they should adhere to the principles of sound, transparent and efficient financial management and cooperate with any authorised audits of their research, whether undertaken by their employers/funders or by ethics committees. Methods of collection and analysis, the outputs and, where applicable, details of the data should be open to internal and external scrutiny, whenever necessary and as requested by the appropriate authorities.

Institutional rules and/or practices:

The Institute's researchers are aware of our responsibility for the costs of research, their proper estimate and the efficient and transparent spending of them. As part of the Polish Academy of Sciences Institute, it is obliged to make available all the data to the state control authorities and the internal control authorities of the Polish Academy of Sciences whether the inspection concerns ethics, financing or dissemination of research results. In addition, at each stage of the research insight into the entire documentation on the research of the Institute of Management and a Chief Accountant, any perceived deficiencies are corrected as they occur. In terms of the existing rules and practices, due to the very large number of R & D projects implemented by IMMS PAS, co-financed from national and Community public funds, they are subject to the obligatory control of authorized bodies (national and EU) under the IMMS PAS agreements signed for the funding of these projects.

The Institute used the provisions of the Act 27 August 2009 Public Finance and the Law of 29 January 2004 Public Procurement Law. In addition, in-house staff of the Institute utilized the Director of Procurement Procedure (updated Order No. 3/2016) and the Regulations concerning the application of Public Procurement Law (updated Order No. 2/2016). According to the above-mentioned procedures, employees of the Institute are obliged to spend funds for a specific purpose, reliably and economically.

Actions required:

None

7. C&C principle - Good practice in research

Researchers should at all times adopt safe working practices, in line with national legislation, including taking the necessary precautions for health and safety and for recovery from information technology disasters, e.g. by preparing proper back-up strategies. They should also be familiar with the current national legal requirements regarding data protection and confidentiality protection requirements, and undertake the necessary steps to fulfil them at all times.

Institutional rules and/or practices:

Safety, health, and information on possible hazards of workers is one of the basic tasks of the Institute. To prevent accidents at the Institute, periodic (every 2 years) training is carried out by the specialists (final exam) about this problem.

The Institute hired an employee privileges safety inspector who supervises the implementation of the provisions of the Act of 26 June 1974 - The Labour Code in the field of occupational health and safety. He also conducted a risk assessment for all of the positions in the Institute. In addition, regularly collected data are necessary for the preparation of the annual report on the use of harmful substances and carcinogens. In addition, at least once every two years they conducted exercises for the evacuation of regularly trained employees with issues related to the proceedings in emergency situations.

The Labour Code and its implementing regulations govern the issues of health and safety director Ordinance No. 23/2011 on the establishment of the Committee. This includes risk assessment at workplaces and investigation of accidents at work.

Protecting data stored on electronic disks and protecting them against loss is an issue, which draws the attention of employees to the IT staff. To protect the Institute, there are safeguards in the form of antivirus software and firewalls. The Institute is currently upgrading the computer network in order to place the equipment in storage arrays for everyday copying, storage, data storage and backup. The computer system at IMMS PAS provides the proper level of security of processing - high level in accordance with applicable legal order - Regulation of the Minister of Internal Affairs and Administration of 29 April 2004 on the personal data processing documentation and technical and organizational conditions which should be fulfilled by devices and computer systems used for the processing of personal data (OJ 2004 No. 100, item. 1024).

The Institute has a valid Security Policy (updated in June 2015), which in its scope includes the principle of access to ICT networks, the rules of access to classified information, test results and other information protecting the interests of the Institute. In addition, the implementation of the provisions of the law of 5 August 2010 on the protection of classified information and internal rules regulated Security Policy for the protection of classified information ensures Representative Director for the Protection of Classified Information. At the level-house, these issues have been regulated by Ordinance No. 18 of the Director / OC / 11 of 29.04.2011. Director of the IMIM PAN on the organization and functioning of protection of classified information and the handling of sensitive documents.

Actions required:

By the end of the year, there will be issued an order for the Director to protect the data in the form of a copy on electronic mass storage media, which will be made known to all employees. The order will be permanently posted on the website of the Institute.

8. C&C principle - Dissemination, exploitation of results

All researchers should ensure, in compliance with their contractual arrangements, that the results of their research are disseminated and exploited, e.g. communicated, transferred into other research settings or, if appropriate, commercialised. Senior researchers, in particular, are expected to take a lead in ensuring that research is fruitful and that results are either exploited commercially or made accessible to the public (or both) whenever the opportunity arises.

Institutional rules and/or practices:

The primary duty of a scientist of the institute, according to the Statute and the Law of the Polish Academy of Sciences, is the dissemination of research results through participation in conferences, seminars and schools and publishing them in journals with the greatest reach. The results of the work

carried out on request of companies or projects that are relevant for commercial innovation are patented in the Patent Office. Information about studies and published articles can be found at www.imim.pl which is the subject of scientific and laboratory staff, which has been presented in the Polish and English language. Every year, more than 100 employees publish articles in research journals cited by JCR, congresses and national news magazines and present them at national and international conferences and seminars at the Institute and other scientific institutions. Part of the scientific work is posted by employees on thematic portals (ResearchGate, LinkedIn), so they are available all over the world. The Institute is also co-editor of the journal Archives of Metallurgy and Materials, which is indexed among other things by the Institute for Scientific International. Moreover, Cambridge Scientific Abstracts and from 2011 in the CSA and ProQuest the Summon - search engine allows search library resources and increases the visibility and use of the content of periodicals. Access to current issues of the journal is also possible via the De Gruyter publishing house which provides wide access to all interested scientific professionals.

Actions required:

None

9. C&C principle - Public engagement

Researchers should ensure that their research activities are made known to society at large in such a way that they can be understood by non-specialists, thereby improving the public's understanding of science. Direct engagement with the public will help researchers to better understand public interest in priorities for science and technology and also the public's concerns.

Institutional rules and/or practices:

Knowing that information on the research and the application of research findings benefits society, the Institute conducts an annual information campaign including: open days, science festivals, open seminars and demonstrations of the possibilities of research equipment for students and youth. On www.imim.pl, there is a film about the research at the institute, which is led by young employees and graduate students. Every year, the Institute participates in the organization of international meetings of doctoral students, which allows the exchange of experiences and the study of scientific problems. Periodically, the institute participates in fairs and national and international exhibitions presenting their own achievements and those based on cooperation with others. Institute employees have received three gold medals for their inventions at international fairs. The following is a description of the three winners: in 2005 during the Fair of Inventions and New Technologies Concour Leppin for Model Polish system of long-term cardiac support, in Paris; in 2008, for the Composite Diamond and its production process, on 57 Exhibition of Innovation, Research and New Technologies "BRUSSELS INNOVA in Brussels and in 2009 for the pneumatic chamber cardiac support during the 53 International Fair of Inventions" Eureka "also in Brussels. Due to the high cost of participation in fairs and exhibitions, the Institute can't often take part in these events.

Some Institute employees undertake additional employment in the Krakow Experience Park, where they give younger children experience in chemistry and physics. The Institute supports such initiatives by allowing employees to use work time for extra-curricular activities.

Actions required:

None.

10. C&C principle - Non discrimination

Employers and/or funders of researchers will not discriminate against researchers in any way on the basis of gender, age, ethnic, national or social origin, religion or belief, sexual orientation, language, disability, political opinion, social or economic condition.

Institutional rules and/or practices:

The Institute as a unit of the Polish Academy of Sciences complies with the Act on the Polish Academy of Sciences and Polish law, which unequivocally condemns discrimination against people because of their different characteristics listed above and xenophobic behaviour. The Institute worked or works with people with different political orientations, social origin, gender, etc. For this and other above-mentioned reasons, there has never been any incidents. In cooperating with dozens of countries, the institute performed research and lived with researchers from different countries. They never informed the management of defamation and discrimination against them by the staff of the Institute and other persons outside of the Institute. Evidence of the absence of discrimination against women in employment is supported by recent data that shows the relationship between the number of women and men working in IMMS PAS. Older and experienced researchers are allowed to work to retirement age as provided for by law. People with disabilities are subject to special provisions of the Polish labour law, which is used in the Institute. Employment of women in the IMMS PAS in recent years was as follows: December 31, 2009, the Institute employed 86 workers including 33 women. December 31, 2010, the Institute employed 90 workers including 34 women. December 31, 2011, the Institute employed 92 workers including 35 women. December 31, 2012, the Institute employed 91 workers including 34 women. December 31, 2013, the Institute employed 87 workers including 36 women. December 31, 2014, the Institute employed 91 workers including 37 women. December 31, 2015, the Institute employed 91 workers including 36 women. The above data shows that the employment of women in the Institute remains high at around 40%. Workers and employees on maternity and parental leave are encouraged to implement projects without hindering them from combining the duties associated with raising a child with scientific activity. In addition, each of the employees, when accepting their job were to read the instructions of employees in writing about discrimination. These instructions are signed by the employee and are a part of their personnel records.

Actions required:

None.

11. C&C principle - Evaluation/ appraisal systems

Employers and/or funders should introduce for all researchers, including senior researchers, evaluation/appraisal systems for assessing their professional performance on a regular basis and in a transparent manner by an independent (and, in the case of senior researchers, preferably international) committee.

Institutional rules and/or practices:

The Act on the Polish Academy of Sciences provides for the periodic evaluation of all senior researchers, which must be conducted at least once every four years. For several years, the Institute has carried out this assessment once every two years. For this purpose, it appointed the Scientific Committee for Evaluation of Workers, which based on the rules of assessment also discussed and approved by the Scientific Council evaluates the scientists. Evaluation results are presented and discussed at meetings of

the Council and are made in the form of messages on the bulletin board. Rules for the assessment are based on the rules of assessment institutes by the Ministry of Science and Higher Education. Employees may appeal the assessment to the Evaluation Commission of the Appeals Committee and the Director of the Institute and ultimately also to the President of the Polish Academy of Sciences. Information about the committees is found on the website of the Institute www.imim.pl.

Actions required:

None.

2.2. Recruitment

12. C&C principle - Recruitment

Employers and/or funders should ensure that the entry and admission standards for researchers, particularly at the beginning of 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. Employers and/or funders of researchers should adhere to the principles set out in the Code of Conduct for the Recruitment of Researchers when appointing or recruiting researchers.

Institutional rules and/or practices:

Rules of admission for researchers are defined by the rules generally set by the applicable Polish law and European directives, including the Act on the Polish Academy of Sciences, the Labour Code, the statute and the Regulations on hiring research positions at the Institute of Metallurgy and Materials Science Polish Academy of Sciences in 2011. Researchers are admitted to work at the Institute as a result of the competition, which is always announced on www.imim.pl and on the sites of the Public Information Bulletin of the Ministry of Science and Higher Education. These sites also present the conditions to be met by the person applying for a job. A competition committee is appointed for each competition. This committee assesses the merits of the candidate and presents the results to the Director and the Scientific Council. Since the Institute maintains a high level of research, an essential condition for receiving work at the Institute is a high assessment of the merits of the candidate. Appointment of employees to higher positions is always carried out on the basis of scientific achievements and a substantive evaluation by the head of the laboratory in which the employee is employed. The steps of the recruitment procedure in the Institute are defined in the Regulations on hiring research positions at the Institute of Metallurgy and Materials Science Polish Academy of Sciences since 2011.

Actions required:

None

13. C&C principle - Recruitment (Code)

Employers and/or funders should establish recruitment procedures which are open, efficient, transparent, supportive and internationally comparable, as well as tailored to the type of positions advertised. Advertisements should give a broad description of knowledge and competencies required, and should not be so specialised as to discourage suitable applicants. Employers should include a description of the working conditions and entitlements, including career development prospects. Moreover, the time allowed between the advertisement of the vacancy or the call for applications and the deadline for reply should be realistic.

Institutional rules and/or practices:

The regulations on hiring research position at the Institute of Metallurgy and Materials Science Polish Academy of Sciences were adopted in 2011. The rules for staff recruitment are tailored to the type of the proposed positions and are made public on the website of the Institute www.imim.pl and on the sites of the Public Information Bulletin of the Ministry of Science and Higher Education. Because of the very specific nature of the work, for example, research on a specialized modern apparatus, some of the requirements for candidacy must contain an accurate description of the required knowledge and skills. Otherwise, the employment of a person who is unprepared for a particular type of work would be detrimental to the Institute. However, the requirements are formulated so that they can generally be satisfied by a number of candidates.

For other than scientific positions, the requirements for candidates are less formalized but always precise. Working conditions are always listed in the employment announcement.

Career prospects in the field of promotion for the researcher is determined by among other things, the Act of 30 April 2010 of the Polish Academy of Sciences as well as the provisions of the Regulations of Remuneration of 24 October 2012.

Actions required:

None

14. C&C principle - Selection (Code)

Selection committees should bring together diverse expertise and competences and should have an adequate gender balance and, where appropriate and feasible, include members from different sectors (public and private) and disciplines, including from other countries and with relevant experience to assess the candidate. Whenever possible, a wide range of selection practices should be used, such as external expert assessment and face-to-face interviews. Members of selection panels should be adequately trained should be realistic.

Institutional rules and/or practices:

The Commission to assess the candidates is proposed by the Scientific Council. It is composed of eminent specialists with experience in research, teaching and managing research teams. Due to the nature of work at the Institute, these committees usually consist of both employees of the institute and the members of the Scientific Council.

Members of the Commission are fully aware of the requirements and conditions of work at the institute and are experienced specialists in the field of materials testing. As a result, they can accurately evaluate candidates on the basis of competition documentation. The verification is the first stage of the contest and is performed at a later stage of the negotiations with the candidate. The mode of operation of the Commission is defined in the Regulations on hiring for research positions at the Institute of Metallurgy and Materials Science Polish Academy of Sciences from 2011.

Actions required:

None

15. C&C principle - Transparency (Code)

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.

Institutional rules and/or practices:

All information about the recruitment process and the selection criteria and the number of positions are posted on the website of the Institute www.imim.pl. Candidates are informed of the outcome of the competition by e-mail. The Recruitment Committee at the end of the procedure, prepares a record of their work.

Actions required:

When communicating the results of the competition, consideration should be given to the strengths and weaknesses of the candidate. The Director will issue a regulation to that effect.

16. C&C principle - Judging merit (Code)

The selection process should take into consideration the whole range of experience of the candidates. While focusing on their overall potential as researchers, their creativity and level of independence should also be considered. This means that merit should be judged qualitatively as well as quantitatively, focusing on outstanding results within a diversified career path and not only on the number of publications. Consequently, the importance of bibliometric indices should be properly balanced within a wider range of evaluation criteria, such as teaching, supervision, teamwork, knowledge transfer, management of research and innovation and public awareness activities. For candidates from an industrial background, particular attention should be paid to any contributions to patents, development or inventions.

Institutional rules and/or practices:

The scientific achievements of the employee are assessed taking into account the different aspects of the business. When evaluating scientific achievements, the following factors are taken into account such as its activities; publishing achievements, patents, academic textbooks and specialist care, scientific lectures, active participation in promoting science, participation in scientific committees and others. In recognition of their merits, scientists are proposed for state awards, receive Director awards and the Polish Academy of Sciences and are promoted to managers of laboratories.

Actions required:

Prepare the general principles for the assessment of the merits of scientists and also for the preparation of periodic ranking employees of the Institute.

17. C&C principle - Variations in the chronological order of CVs (Code)

Career breaks or variations in the chronological order of CVs should not be penalised, but regarded as an evolution of a career, and consequently, as a potentially valuable contribution to the professional development of researchers towards a multidimensional career track. Candidates should therefore be allowed to submit evidence-based CVs, reflecting a representative array of achievements and qualifications appropriate to the post for which application is being made.

Institutional rules and/or practices:

Each candidate / researcher has the right to present information about their entire careers detailing their most important achievements, scientific internships they held and other activities of growing and expanding their knowledge. Periods that the candidate spent on acquiring knowledge from other areas are considered as valuable work experience, unless they are not connected with the work of the Institute.

Actions required:

Modification of the Rules on hiring research position at the Institute of Metallurgy and Materials Science Polish Academy of Sciences - the extension of the recruitment criteria for achievements outside of science.

18. C&C principle - Recognition of mobility experience (Code)

Any mobility experience, e.g. a stay in another country/region or in another research setting (public or private) or a change from one discipline or sector to another, whether as part of the initial research training or at a later stage of the research career, or virtual mobility experience, should be considered as a valuable contribution to the professional development of a researcher.

Institutional rules and/or practices:

Scientists from the Institute are encouraged to conduct research in other research centre and to collaborate with scientists from institutes in the country and abroad. This experience is taken into account in reaching the next levels of their academic career (PhD, DSc, Professor) and detailed in the Polish Act on Scientific degrees and titles. Rating the candidate/employee is carried out by taking into account the experience and scientific achievements gained not only in the Institute but also in other research centres at different times in their academic careers. The Institute implements the project ERASMUS and employees are also granted paid educational leave. At the request of the employee, they are also granted unpaid leave with a guarantee of returning to their employment after completion of their leave.

Actions required:

None

19. C&C principle - Recognition of qualifications (Code)

Employers and/or funders should provide for appropriate assessment and evaluation of the academic and professional qualifications, including non-formal qualifications, of all researchers, in particular within the context of international and professional mobility. They should inform themselves and gain a full understanding of rules, procedures and standards governing the recognition of such qualifications and, consequently, explore existing national law, conventions and specific rules on the recognition of these qualifications through all available channels.

Institutional rules and/or practices:

IMMS PAS does not have separate regulations on the recognition of professional qualifications for scientists. These matters are regulated by Polish law, the law on degrees and academic titles and the Regulation of the Minister of Science and Education. Internships and study trips are considered as scored criterion for recruiting people for positions of research workers (employment provisions of the Regulations on research positions at the Institute of Metallurgy and Materials Science Polish Academy of Sciences). Recruitment to doctoral studies takes place in a competition during which the achievements of a candidate are assessed on the basis of the documents submitted, including: training, courses and activities in scientific circles, and others.

Requirements for candidates to work in the Institute are very specific and relate to the subject of research by the candidate, and graduation rates, academic degree and scientific specialization. The requirements of educational and scientific specialization are defined in a very general form.

Actions required:

None.

20. C&C principle - Seniority (Code)

The levels of qualifications required should be in line with the needs of the position and not be set as a barrier to entry. Recognition and evaluation of qualifications should focus on judging the achievements of the person rather than his/her circumstances or the reputation of the institution where the qualifications were gained. As professional qualifications may be gained at an early stage of a long career, the pattern of lifelong professional development should also be recognized.

Institutional rules and/or practices:

The Institute has always applied the given rules. They thoroughly analyse the requirements for the position and candidates are evaluated on the basis of qualifications and scientific achievements over their lifetime. Standards in this area are determined by, among other things, Regulations on hiring research positions at the Institute of Metallurgy and Materials Science Polish Academy of Sciences from 2011 and the Act of 30 April 2010 of the Polish Academy of Sciences.

Actions required:

None

21. C&C principle - Postdoctoral appointments (Code)

Clear rules and explicit guidelines for the recruitment and appointment of postdoctoral researchers, including the maximum duration and the objectives of such appointments, should be established by the institutions appointing postdoctoral researchers. Such guidelines should take into account time spent in prior postdoctoral appointments at other institutions and take into consideration that the postdoctoral status should be transitional, with the primary purpose of providing additional professional development opportunities for a research career in the context of long-term career prospects.

Institutional rules and/or practices:

Standards in this area determine, among other things, terms of employment for the research position at the Institute of Metallurgy and Materials Science Polish Academy of Sciences from 2011. The Act of 30 April 2010 of the Polish Academy of Sciences, the Act of 27 July 2005 Law of higher education, the Act of 14 March 2003 on scientific degrees and academic titles and degrees and title in art together with the relevant regulations. Therefore, the Institute is complying with these regulations and cannot change them. The institute also conducts at least once a year, discussions with academics possessing a doctorate degree in order to review the progress of their work. Any problems that arise on the way to getting another degree and possible solutions are discussed at the meetings.

Actions required:

None.

2.3 Working conditions and social security

22. C&C principle - Recognition of the profession

All researchers engaged in a research career should be recognized as professionals and be treated accordingly. This should commence at the beginning of their careers, namely at postgraduate level, and should include all levels, regardless of their classification at national level (e.g. employee, postgraduate student, doctoral candidate, postdoctoral fellow, civil servants).

Institutional rules and/or practices:

The employment policy in the sector of science and the successive stages of advancement defined in the Act of 30 April 2010 of the Polish Academy of Sciences, the Act of 27 July 2005 Law on Higher Education, the Act of 14 March 2003 on Academic Degrees and Titles and scientific degrees and titles in the field of art, along with the relevant regulations. The Institute can, therefore, employ: a) scientific employees b) researchers, c) librarians, information specialists and scientific computing personnel, d) engineering and technical staff, e) personnel, organizational, administrative and economic personnel and f) support staff.

Research workers are employed in IMMS PAS as professors, professors at the Institute, assistant professor, senior assistant and assistant while technicians and research can be employed a full-time senior specialist and a specialist. The Institute currently employs 86 individuals in the positions listed below

Eight - Professors

Ten - Associate Professors

Nineteen - Assistant Professors

Five - Research and technical employees

Eighteen – Engineering and technical employees

Nineteen – Administrative staff

Seventeen - Operating staff

In addition, the Institute has never practiced employing people in positions below their academic qualifications, for example, employing a person with a habilitation degree as a lecturer. Along with a degree, the employee is offered a promotion to a higher position.

Actions required:

None.

23. C&C principle - Research environment

Employers and/or funders of researchers 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, and that the national or sectoral regulations concerning health and safety in research are observed. Funders should ensure that adequate resources are provided in support of the agreed work programme.

Institutional rules and/or practices:

Employees of the Institute of Metallurgy and Materials Science have tried for years to get it to perform research using state of the art research equipment, since it is a condition for obtaining reliable test results with the smallest error measurement. In addition, the Institute strives to purchase and modernize the research equipment for seven research departments and for nine accredited laboratories that perform research for the scientific community, business and industry. It is one of the few institutions in Poland

that has a flexible system of research. Between 2012-2015 it implemented at the Institute the project "Adaptation research potential IMMS PAS to the requirements of world standards complementary research in materials science" (Project No. POIG.02.01.00-12-175 / 09) for a total amount of EUR 10 649 302.84 PLN, which made it possible to equip laboratories accredited in the new equipment and to create three new laboratories. The Institute will utilize the financial resources for modernizing laboratories and rooms for research, conceptual work (data analysis, preparation of publications, discussion with other scientists), and data presentations at seminars and lectures (modernized lecture hall with modern audio-visual equipment). To ensure that scientists can communicate with their domestic and foreign colleagues, the Institute has a very fast computer network, which is constantly being modernized. Every employee of the institute as well as graduate students have Internet access and a modern operating system and software. The Institute meets all of the requirements under the Act on Health and Safety at work ensuring the health and safety of all employees. Employees are regularly trained on the scope of work with the apparatus. They are also sent to workshops that are organized in Poland and abroad.

Actions required:

None

24. C&C principle - Working conditions

Employers and/or funders 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, as well as to the necessary financial and administrative provisions governing such arrangements.

Institutional rules and/or practices:

Legislation governing in part the problems mentioned is the Law of 26 June 1974 - Labour Code Order, the Act of 30 April 2010 of the Polish Academy of Sciences as well as the provisions of the Regulations of Remuneration of October 24, 2012 and records Work Regulations. Many people during parental leave do not want to discontinue research activities. The Institute helps employees during parental leave to continue scientific work, e.g. in projects funded by the Ministry, through flexible planning to perform tasks in projects. At the same time, they pay attention to the fact that, in accordance with the provisions of the Act, the period of employment as a lecturer with a non-postdoctoral degree is extended by the period of maternity, paternity and parental leave.

Periodic sabbatical leave is possible in the cases specified in the Act. During periodic training of the law, health and safety (every two years) are always discussed.

Actions required:

The introduction of performance and flexible working time in the Rules Work.

25. C&C principle - Stability and permanence of employment

Employers and/or funders should ensure that the performance of researchers is not undermined by instability of employment contracts, and should therefore commit themselves as far as possible to

improving the stability of employment conditions for researchers, thus implementing and abiding by the principles and terms laid down in the EU Directive on Fixed-Term Work.

Institutional rules and/or practices:

These issues are regulated by Polish law (Act on Polish Academy of Science, Act on Academic Degrees and Academic Title, and on Degrees and Title in Art) and IMMS PAS is obliged to respect those rules and the commitments arising from the cited acts.

Actions required:

None.

26. C&C principle - Funding and salaries

Employers and/or funders of researchers should ensure that researchers enjoy fair and attractive conditions of funding and/or salaries with adequate and equitable social security provisions (including sickness and parental benefits, pension rights and unemployment benefits) in accordance with existing national legislation and with national or sectoral collective bargaining agreements. This must include researchers at all career stages including early-stage researchers, commensurate with their legal status, performance and level of qualifications and/or responsibilities.

Institutional rules and/or practices:

Institute funding, remuneration of employees and social insurance are regulated by the Act of 26 June 1974 - The Labour Code, Act of 30 April 2010 of the Polish Academy of Sciences, the Act of 13 October 1998 on social insurance, Regulation of the Minister of Science and Higher Education of 24 October 2014 on doctoral studies and doctoral scholarships, as well as the provisions of the Regulations of remuneration of 24 October 2012, the Rules of doctoral studies of 24 September 2014. Additional remuneration received by the employees is possible through the implementation of the surveys provided for in individual or team projects research funded by the Polish government and the European Union. The Directorate of the Institute encourages employees to work towards acquiring these projects to indicate by e-mail or at seminars and lectures about competitions for research projects organized in the country and the EU. The Institute is currently carrying out more than 60 different projects, due to which a significant proportion of employees receive additional pay or bonuses. According to the labour law, staff for the next 5 years of work receive additional bonuses ranging from 5-20% of their basic salary and after 15, 20, 25, 30, 35, 40 and 45 years of 50-300% of the average salary for the last 3 months. In addition, at the end of the year, the Director of the Institute gives employees a bonus for achievements in the field of scientific activity. All rights of the workers provided by laws have been respected by the Institute since their implementation.

Actions required:

None.

27. C&C principle - Gender balance

Employers and/or funders should aim for a representative gender balance at all levels of staff, including at supervisory and managerial level. This should be achieved on the basis of an equal opportunity policy at recruitment and at the subsequent career stages without, however, taking precedence over quality and competence criteria. To ensure equal treatment, selection and evaluation committees should have an adequate gender balance.

Institutional rules and/or practices:

Polish laws give women equal rights with men to work in all possible institutions such as in industry, education, science, management, administration, etc.,. The exception is with those jobs where employment is limited specific work conditions (risk to the health of women and children who will be born). The principle of equal opportunities and gender balance has been carried out at the Institute since its inception. For many years, many more men than women were employed at the institute. For comparison, here is the data for the employees of the Institute.

December 31, 2009 - 86 people were employed including 33 women.

December 31, 2010 - 90 people were employed including 34 women.

December 31, 2011 - 92 people were employed including 35 women.

December 31, 2012 - 91 people were employed including 34 women.

December 31, 2013 - 87 people were employed including 36 women.

December 31, 2014 - 91 people were employed including 37 women.

December 31, 2015 - 91 people were employed including 36 women.

These data show that the employment of women in the Institute remains high at around 40%. Workers and employees on maternity and parental leave are encouraged to implement projects without hindering them by combining the duties associated with raising a child with scientific activity. According to the practice in the Institute, a woman who returns to work after parental leave, has the right to employment in the position which she previously occupied. Employers are offered a salary that would have received if they had not used the parental leave. The woman also has the right to breaks for breast-feeding a child. The breaks, which are specified in the regulations, are counted as working time. Moreover, workers employed for at least 6 months have the right to parental leave for up to three years in order to provide personal care for a child, but only up to the age of 4.

The participation of women in commissions, committees and teams qualifying is limited by the number of employed women in certain research laboratories and other sections (divisions) of the Institute and the consent of women to participate in the work of these teams.

Actions required:

Women will always be invited to work in teams qualifying competition or in the number of comparable men under management director, which will be implemented by the Regulation Director.

28. C&C principle - Career development

Employers and/or funders of researchers 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.

Institutional rules and/or practices:

Scientific career (professional) is governed by the Act of the Polish Academy of Sciences, the Act of High Education and statute IMMS PAS. To obtain a doctoral degree and postdoctoral provided for a fixed period (9 and 8 years) for employees who are not listeners for doctoral study. Of those time limits, each graduate student and the doctor is informed individually. In addition, each year the director and his deputy for Research have discussions on the progress in implementing the conditions necessary to obtain

a degree and academic title. To mobilize scientists to develop and obtain degrees, the Director grants them scholarships for several years. The research work of doctoral students are implemented at the Institute, so contact between the mentor, promoter and PhD student take place every day. This type of assistance and control encourages doctoral students to systematic scientific development and to obtain a doctoral degree in a timely manner. Although the time taken to obtain a degree is well defined in the Act on degrees and academic title, in exceptional cases, the Director may extend this time. This capability eliminates the uncertainty of a young scientist on their professional future. All academics know very well the provisions of the Act on the PAS and Degrees and academic title, which specify the required academic achievements and the maximum period to gain a degree, because during the annual inspection of their scientific achievements they are informed of this. In the case of scientists with the degree of DSc, Directorate creates favourable conditions for the fulfilment of the necessary achievements for appointment to the rank of professor.

Actions required:

None

29. C&C principle - Value of mobility

Employers and/or funders must recognize the value of geographical, inter-sectorial, inter- and transdisciplinary 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, they 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 social security provisions, in accordance with national legislation.

Institutional rules and/or practices:

The Institute does not limit the mobility of researchers, but they are encouraged to conduct projects with companies, institutes and universities in the country and abroad, knowing that multilateral cooperation allows you to explore new methods and research techniques, modernization of equipment, the use of specialized calculation programs and other developing realms of science. Mobility is also one of the requirements, which is the output of a scientist seeking the degree and academic title. Mobility of research workers of all ages is the result of cooperation between domestic and foreign companies, universities and institutes, conducted with 20 countries in the world. Scientists from the Institute site visit and work at foreign research centres, in shorter and longer periods of time and Institute scientists are invited to give lectures or conduct research. In 2015, the Institute had 38 scientists who went abroad and 15 scientists stayed at the Institute for lectures and research. Information about possible collaborations with researchers from other countries are given on the notice board at the Institute. Cooperation of IMMS PAS with the laboratories, Institutes and High Schools in 2015 is shown in Table 2.1.

Table. 2.1. International cooperation IMMS PAS.

State	Partner	Document
FRANCE	Laboratoire Physico-Chimie des Solides, Université de Paris- Sud, Orsay	Bilateral agreement

FRANCE	Laboratory LEM3 UMR CNRS , Metz	Bilateral agreement
RUSSIA	Baikov Institute of Metallurgy and Materials Science of the Russian Academy of Science.	Bilateral agreement
SLOVAKIA	Institute of Materials and Machine Mechanics Slovak Academy of Sciences (SAS), Bratislava	Agreement on scientific cooperation between the PAN and the SAS
SLOVAKIA	Department of Metals Forming, Faculty of Metallurgy, Technical University of Kosice	Bilateral agreement
JAPAN	Graduate School of Science and Engineering for Research, Graduate School of Science and Engineering for Education, University of Toyama	Bilateral agreement
GERMANY	1.Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung, Fraunhofer-Institut für Zerstörungsfreie Prüfverfahren 2. Department of Materials Science and Ceramics, Academy of Mining and Metallurgy, Cracow 3. Foundry Research Institute, Cracow	Memorandum of understanding
UKRAINE	Institute for Applied Problems of Mechanics and Mathematics NANU.	Agreement on scientific cooperation between the PAS and the NANU
SPAIN	University of Granada,	Bilateral agreement
SPAIN	University of Balearic Islands, Department of Physics	Bilateral agreement
GREAT BRITAIN	University of Leicester Mechanics of Materials Research Group	Bilateral agreement
AUSTRIA	Department of Inorganic Chemistry/Materials Chemistry, University of Vienna	Bilateral agreement
BULGARIA	Institute for Metal Science, Equipment and Technologies "Acad. A. Balevski" with Hydroaerodynamics Centre, Bulgarian Academy of Sciences (BAN)	Agreement on scientific cooperation between the PAS and the BAN
BULGARIA	Space Research and Technology Institute of Bulgarian Academy of Sciences (BAN)	Agreement on scientific cooperation between the PAS and the BAN
TURKEY	Anadolu University, Eskisehir,	Bilateral agreement
BELGIUM	University of Louvain (UCL), CESAME - MEMA	Agreement on scientific cooperation between the PAS and the FNRS

Actions required:

None.

30. C&C principle - Access to career advice

Employers and/or funders should ensure that career advice and job placement assistance, either in the institutions concerned, or through collaboration with other structures, is offered to researchers at all stages of their careers, regardless of their contractual situation.

Institutional rules and/or practices:

The Institute supports the activities cited and does not prohibit additional study or courses for their employees. Young scientists employed at the Institute, if they wish, may undertake additional studies or training in order to develop their skills and qualifications. Some employees with the consent or on the initiative of the employer have taken a degree in professional management of R & D projects (OP HC), participated in the projects at SIMS (National Centre of Research and Development), took part in training in the Norwegian SINTEF project and specialized training and workshops under the framework of the Memorandum of Understanding signed with the Fraunhofer Gesellschaft, etc. Another form of development is a commitment to research carried out in laboratories accredited Institute after training and checking the skills of the research equipment. Other forms of development and qualification are determined only by the interests of a younger or older scientist. In the case of doctoral students, skills upgrading can't be contrary to the provisions contained in the rules of doctoral studies, which obliges them to graduation and dissertation defence at exactly the right time. Therefore, doctoral students must have time to prepare and pass exams, write a dissertation and an additional improvement can't interfere with the conduct of research and participation in the lectures in the program. However, with the consent of the promoter and the head of the doctoral study, doctoral students may leave for internships and national travel, where they can expand and improve their knowledge, allowing them to find employment outside the IMMS PAS. Information about the possibility of departure for specific internships and training are given in the form of verbal announcements (seminars) and written (information boards at the Institute). The institute also carries out projects to promote study trips PhD - project POKL.04.01.01-00-004 / 10 (International PhD) realized in 2011-2015, fourteen PhD IMMS PAS went to prestigious foreign research institutions. Study trips were one of the most important elements of the project. Information about the possible actions which increase the skills and knowledge is also distributed to young scientists via e-mail.

Actions required:

None

31. C&C principle - Intellectual Property Rights

Employers and/or funders 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. Policies and practices should specify what rights belong to researchers and/or, where applicable, to their employers or other parties, including external commercial or industrial organisations, as possibly provided for under specific collaboration agreements or other types of agreement.

Institutional rules and/or practices:

Some results of research conducted at the Institute are elements of technology and can be used by companies to modernize processes, reduce production costs, improve the performance of the products, and finally to increase profits. To protect the copyright of scientists, these results are patented and patent holders are co-researchers. These intellectual properties are then protected by the Patent Office. If the same tests were carried out by teams from different institutions (companies, commercial organizations

and universities), the rights to the results obtained and the division of financial benefits are defined in cooperation agreements research. In addition, the resolution of the Scientific Council IMMS PAS of 12 March 2015 years was adopted terms of management of copyright and related rights, industrial property rights and the principles of commercialization of the results of research and development work in IMMS PAS. Regulations define the rules for the management of copyright and related rights, industrial property rights and the principles of commercialization of the results of research and development to marketing and result in economic know-how, which is the result of research and development work within the framework of activities of the Institute. To better acquaint employees with the most important provisions of the law of intellectual property, special training is planned on the subject.

Actions required:

By the end of 2016, a seminar will be organized on intellectual property rights.

32. C&C principle - Co-authorship

Co-authorship should be viewed positively by institutions when evaluating staff, as evidence of a constructive approach to the conduct of research. Employers and/or funders should therefore 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).

Institutional rules and/or practices:

The Institute supports all forms of cooperation between scientists and which are the result of their work, whose authors are a group of people cooperating, including younger workers or students. These works are evaluated in accordance with the principles established by the Ministry of Science and Higher Education, regardless of the number of authors and the positions they occupy in the group of collaborating scientists. Resolution of the Scientific Council at IMMS PAS of 12 March 2015 years was adopted terms of management of copyright and related rights, industrial property rights and the principles of commercialization of the results of research and development work at IMMS PAS. Regulation lays down rules co-authored the publications and the implementation of projects. There has not been a single case of violation of employee rights to co-authorship in publications, patent and other forms of presenting research results, and if they occur, those guilty of the violation of these rules will be judged by the Disciplinary Commission, and Director of the Scientific Council of the Institute.

Actions required:

None

33. C&C principle - Teaching

Teaching is an essential means for the structuring and dissemination of knowledge and should therefore be considered a valuable option within the researchers' career paths. However, teaching responsibilities should not be excessive and should not prevent researchers, particularly at the beginning of their careers, from carrying out their research activities. Employers and/or funders 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. Suitable training should be provided for teaching and coaching activities as part of the professional development of researchers.

Institutional rules and/or practices:

Teaching at the Institute is a process conducted within the framework of doctoral studies and as a result of discussions with the promoter, manager of the laboratory or an experienced senior scientist. Classes conducted in the framework of doctoral studies lecturers take several hours per semester and, therefore, do not constitute a big burden for teachers. The time spent by teachers on teaching is rewarded by the Director of the Institute with a periodic cash bonus. The commitment to the teaching of young researchers is taken into account when assessing individual scientists. Teaching is conducted during working hours and, therefore, does not require that the teachers spend their free time. Teaching the individual, as an exchange of knowledge between the promoter or expert and PhD student has a place in the course of joint research and discussion of results, preparation of reports and science activities and use of research equipment.

Actions required:

None

34. C&C principle - Complains/ appeals

Employers and/or funders of researchers 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. Such procedures should provide all research staff with confidential and informal assistance in resolving work-related conflicts, disputes and grievances, with the aim of promoting fair and equitable treatment within the institution and improving the overall quality of the working environment.

Institutional rules and/or practices:

All complaints and appeals of researchers, including younger ones, are dealt with on a regular basis by the Director, project managers and laboratories and promoters. Matters of a disciplinary action shall be brought by the Disciplinary Committee of the Institute, set up in accordance with the provisions of the Statute of the Institute adopted on 2 June 2011. In the event a decision unfavourable to the employee, he has the right to appeal to the Appeal Board for reconsideration of his case. These commissions are established by the Scientific Council of the Institute and the composition of them is determined by elections. Those currently operating these committees were selected in 2015. The scope of matters to the rule is determined by the statute of the Institute and the Law of the Polish Academy of Sciences. Information about the committees are posted on the website of the Institute www.imi.pl.

Actions required:

Posting on the website of information on the procedure to be followed and the appeal of the Disciplinary and Appeals.

35. C&C principle - Participation in decision-making bodies

Employers and/or funders of researchers 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:

Institutional rules and/or practices:

According to the Act on the Polish Academy of Sciences and the Statute of the Institute adopted on 2 June 2011, most of the important decisions concerning the activities of the scientific and organization is taken by the Director of the Institute after consultation and approval of the Scientific Council. The Scientific Council is made up largely of independent academics but members are also elected representatives of the younger employees and PhD students who have full right to present opinions and contributions of younger workers on the activities of the Institute's Scientific Council. In addition, all employees can present and discuss with the director of the institute, his deputies and the promoters the issues that serve to improve their development and activities of the institute.

Actions required:

None

2.4 Training

36. C&C principle - Relation with supervisors

Researchers in their training phase should establish a structured and regular relationship with their supervisor(s) and faculty/departmental representative(s) so as to take full advantage of their relationship with them. This includes keeping records of all work progress and research findings, obtaining feedback by means of reports and seminars, applying such feedback and working in accordance with agreed schedules, milestones, deliverables and/or research outputs.

Institutional rules and/or practices:

IMMS PAS is interested in appropriate and good relations between younger academics (interns, graduate students), their development and the care of senior researchers. Every young scientist is fully informed of who is working and who is to pay in the event of difficulties in carrying out studies and who want to be informed about the test results. Young scientists at the beginning of their careers, are always informed by the supervisor of the type, form and execution time reports from research and progress in research is regularly discussed with their supervisor. Presentation of research results by a young scientist and the method and date of presentation is discussed with the supervisor (senior researcher). Younger employees are subject to the same rules as experienced employees. Within the specified time, they must do their research, make a report and present it to the scientific committee for evaluation. In addition, each young researcher and PhD student is obliged to present the results of research at the institute seminars, national and international conferences and published in international journals. The rights and obligations of employees and doctoral students are defined in the statute and regulations IMMS PAS doctoral studies.

Actions required:

Extending the provisions of the Statute and Rules of doctoral studies on the principles of cooperation of young scientists with their teachers and dissemination of research results.

37. C&C principle - Supervision and managerial duties

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.

Institutional rules and/or practices:

Senior researchers working in IMMS PAS, due to their extensive professional experience, have different organizational function responsibilities and scientific responsibilities. But the most important thing is their role is to maintain a good relationship with younger employees and to foster their scientific development. These tasks are defined both in the Act on the Polish Academy of Sciences and the Law on Higher Education and the Rules of doctoral studies and the Statute of the Institute. Mutual cooperation between junior and senior researchers in the implementation of the statutory research and research projects provides the most comprehensive knowledge transfer, development of research careers and to prepare younger workers to perform in the future of responsibility promoters, project managers, laboratory managers etc. Control of the development of junior and senior researchers is carried out to obtain the title of professor.

Actions required:

None

38. C&C principle - Continuing Professional Development

Researchers at all career stages should seek to continually improve themselves by regularly updating and expanding their skills and competencies. This may be achieved by a variety of means including, but not restricted to, formal training, workshops, conferences and e-learning.

Institutional rules and/or practices:

Political professional development is a fundamental principle implemented at the Institute for a number of years. It stems directly from the provisions of the Act on the Polish Academy of Sciences and the Law on Higher Education, which obliges researchers to continuous development, since it puts before them time requirements and to improve and expand knowledge in the acquisition of degrees. This development is caused by participation in various types of actions developing skills and qualifications. These include, among others, conferences and seminars, post-doctoral studies, research fellowships and others.

Actions required:

None

39. C&C principle - Access to research training and continuous development

Employers and/or funders should ensure that all researchers at any stage of their career, regardless of their contractual situation, are given the opportunity for professional development and for improving their employability through access to measures for the continuing development of skills and competencies. Such measures should be regularly assessed for their accessibility, take up and effectiveness in improving competencies, skills and employability.

Institutional rules and/or practices:

Researchers of the Institute are free to improve their skills through participation in conferences, training, periodic trips to foreign and domestic institutes and training courses, and participating in lectures conducted at universities. Younger academics are studying opportunities for doctoral studies and

participating in weekly seminars where lectures lead scientists from the Institute and invited from other research institutes and universities in Poland and abroad.

Information about doctoral studies, schedule of lectures and seminars can be found on the website of the Institute www.imim.pl. In addition, employees are informed and can participate without special permission, in seminars, which take place in some faculties of universities and public defences of doctoral technical universities in Poland after having informed his superiors.

Actions required:

None.

40. C&C principle - Supervision

Employers and/or funders should ensure that a person is clearly identified to whom early-stage researchers can refer for the performance of their professional duties, and should inform the researchers accordingly. Such arrangements should clearly define that the proposed supervisors are sufficiently expert in supervising research, have the time, knowledge, experience, expertise and commitment to be able to offer the research trainee appropriate support and provide for the necessary progress and review procedures, as well as the necessary feedback mechanisms:

Institutional rules and/or practices:

Every young worker starting a scientific career, at the time of admission to employment or to doctoral studies is informed of what will work, what belongs to his duties and who has to pay in the case of work. Those making science doctoral studies sign an agreement to provide free educational services within the framework of doctoral studies indicating explicitly their tutor. Guardians of young scientists are always experienced researchers holding a degree or academic degree (PhD, DSc or Professor), thereby ensuring the proper care of substantive monitoring progress in the research, development reports, discussion and dissemination of results. A special mentoring of young workers is stated in the Law on Higher Education, IMMS PAS statute and regulations doctoral studies.

Actions required:

None.

3. Results of internal analysis

The analysis of conformity and divergence indicates that the rules used at IMMS PAS are consistent, in the areas of employment, education, workers' rights and the rules and requirements applicable to scientists with the European Charter for Researchers. Therefore, the activity of the institute in these respects does not require major changes. Most of the recommendations listed in the C & C coincide with the Act on the Polish Academy of Sciences and the Higher Education Act, degrees and academic titles, the Labor Code, rules and orders of the Director of the Institute and resolutions of the Scientific Council. Noticeable minor, but necessary, activities of the Institute, which are taken mean that all the proposed recommendations and good practices in the ECR, will be fully implemented at IMMS PAS.

Therefore, the information policy has been improved and some rules of operation and the regulations of doctoral studies modified. In the area of information policy the activities of the Institute will focus on inclusion on the www.imim.pl, all laws, rules and Director regulations, concerning operation of the Institute. In addition, employees and PhD students will be informed by e-mail about the various events

and activities that affect them. Some internal rules will be modified by the decision of the Director of the Institute.

4. Action Plan

Based on the analysis of the conformity and divergence the action plan, which has to be undertaken at IMM PAS, is established in the form of Tables 4.1 – 4.4 in which the actions and realization time is proposed to eliminate all divergences with the C&C.

Table 4.1

I. General Principles and Requirements applicable to Researchers		
C&C principle	Action	Data of realization
1. Research freedom	None.	30-06- 2016
2. Ethical Principles	Seminar on Ethical Principles.	31-12-2016
3. Professional responsibility	Transferring employees to e-mail with a reminder of the Code of Ethics of the Scientific Employee referred to Resolution No. 10/2012 of the General Assembly of the Academy of Sciences on 13 December 2012.	30-06- 2016
4. Professional attitude	None.	31-09-2016
5. Contractual and legal obligations	The organization of a seminar in 2016 on the sharing of research results, implementation of agreements and intellectual property rights, industrial property rights and the basis of copyright law.	31-12-2016
6. Accountability	None.	-
7. Good practice in research	By the end of the year, there will be issued an order for the Director to protect the data in the form of a copy on electronic mass storage media, which will be made known to all employees. The order will be permanently posted on the website of the Institute.	31-12-2016
8. Dissemination, exploitation of results	None.	-
9. Public engagement	None.	-
10. Non discrimination	None.	-
11. Evaluation/ appraisal systems	None..	31-06-2016

Table 4.2

II. Recruitment		
C&C principle	Action	Data of realization
12. Recruitment	None.	-
13. Recruitment (Code)	None.	-
14. Selection (Code)	None.	-
15. Transparency (Code)	When communicating the results of the competition, consideration should be given to the strengths and weaknesses of the candidate. The Director will issue a regulation to that effect.	30-09-2016
16. Judging merit (Code)	Prepare the general principles for the assessment of the merits of scientists and also for the preparation of periodic ranking employees of the Institute.	30-09-2016
17. Variations in the chronological order of CVs (Code)	Modification of the Rules on hiring research position at the Institute of Metallurgy and Materials Science Polish Academy of Sciences - the extension of the recruitment criteria for achievements outside of science.	31-12-2016
18. Recognition of mobility experience (Code)	None.	-
19. Recognition of qualifications (Code)	None.	-
20. Seniority (Code)	None.	-
21. Postdoctoral appointment (code)	None.	-

Table 4.3

III. Working conditions and social security		
C&C principle	Action	Data of realization
22. Recognition of the profession	None.	-
23. Research environment	None.	-
24. Working conditions	The introduction of performance and flexible working time in the Rules Work.	31-12-2016
25. Stability and permanence of employment	None.	-
26. Funding and salaries	None.	-
27. Gender balance	Women will always be invited to work in teams qualifying competition or in the number of comparable men under management director, which will be implemented by the Regulation Director.	31-12-2016
28. Career development	None.	-
29. Value of mobility	None.	-
30. Access to career advice	None.	-
31. Intellectual Property Rights	By the end of 2016, a seminar will be organized on intellectual property rights.	31-12-2016
32. Co-authorship	None.	-
33. Teaching	None.	-
34. Complains/ appeals	Posting on the website of information on the procedure to be followed and the appeal of the Disciplinary and Appeals	30-09-2016
35. Participation in decision-making bodies	None.	-

Table 4.4

VI. Training		
C&C principle	Action	Data of realization
36. Relation with supervisors	Extending the provisions of the Statute and Rules of doctoral studies on the principles of cooperation of young scientists with their teachers and dissemination of research results.	31-12-2006
37. Supervision and managerial duties	None.	-
38. Continuing Professional Development	None.	-
39. Access to research training and continuous development	None.	-
40. Supervision	None.	-

5. Conclusions

Full compatibility to the rules applicable to the Institute with those of the Human Resources Strategy for Researches have been found in 27 cases (recommendations).

The reason for such excellent compatibility are the rules of operation at the Institute, based on the law defining the functioning of the Polish Academy of Sciences and the Higher Colleges and other laws and regulations providing for the legal and ethical standards, which must be complied with by all employees. These documents are cited in Section 1, subsection 1.2.3.

For the remaining 13 recommendations the requested compatibility is almost complete. However, the Working Group believes that they should be complemented by information for quick and easy access to basic acts by employees of the Institute. This can be achieved by putting all the documents quoted in subsection 1.2.3 on the website of the Institute and informing the employees of the Institute, about this fact by e-mail and written information on the bulletin board. The Working Group also recommends making a small changes in the regulations of work and doctoral study, as well as the issuance by the Director of the Institute, several ordinances formalizing some of the recommendations contained in the Human Resources Strategy for Research which are already implemented at the Institute.

6. Acceptance

The director, all researches, administration and technical staff of the Institute of Metallurgy and Materials Science of Polish Academy of Sciences accept the Human Resources Strategy for Researches.

Place and data

Kraków, May 11, 2016

Signature

DYREKTOR

Prof. dr hab. inż. Paweł Zięba

INSTYTUT METALURGH
I INŻYNIERII MATERIAŁOWEJ
im. Aleksandra Krupkowskiego
Polskiej Akademii Nauk
30-059 Kraków, ul. Reymonta 25
tel. (12) 295-28-00, fax (12) 295-28-04
NIP 675-000-18-57