

Human Resources Excellence in Research

Internal Gap Analysis and Action Plan for the period 2013 – 2015

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1. Introduction

The International Institute of Molecular and Cell Biology (IIMCB) was created with the support of UNESCO, the Polish Academy of Sciences (PAN), and the Polish Government and started its activities in 1999. Presently, IIMCB is one of the most modern institutes in the field of biology in Poland. The Institute is unique, innovative, based on the world's best standards of research, and known for its scientific excellence. Progress toward scientific excellence was acknowledged by the Polish Ministry of Science and Higher Education in a recent evaluation of research institutions in Poland. IIMCB was ranked #1 among 36 institutions involved in research in the broad field of biology.

The research performed at IIMCB focuses mainly on fundamental biomedical problems. The major topics include the following: chaperones and their role in cancer, the molecular basis of neurodegenerative disease (including Alzheimer's disease), the biology of dendritic tree development under normal and pathological conditions (schizophrenia, autism), the interdependence between intracellular endocytic transport and nuclear signal transduction, the crystallographic determination of protein structures involved in antibiotic resistance, the structures and functions of enzymes that act on nucleic acids and their role in DNA repair and degeneration and RNA processing and modification, and the mechanics of the actomyosin cortex.

The current IIMCB groups include the Department of Molecular Biology (M. Zylicz), Laboratory of Bioinformatics and Protein Engineering (J. M. Bujnicki), Laboratory of Structural Biology (M. Bochtler), Laboratory of Neurodegeneration (J. Kuznicki), Laboratory of Cell Biology (M. Miaczynska), Laboratory of Mitochondrial Biogenesis (A. Chacinska), Laboratory of Molecular and Cellular Neurobiology (J. Jaworski), Laboratory of Protein Structure (M. Nowotny), and Laboratory of Cell Cortex Mechanics MPG/PAN in Dresden (E. Paluch until March 2013). Currently, the IIMCB scientific staff consists of eight Group Leaders, including six Professors, 49 Postdoctoral Fellows, and 51 PhD Students. During the period 2000-2012, IIMCB scientists published 491 papers indexed in the Thomson Reuters Web of Knowledge. The articles have been published in such prestigious journals as *Nature, Nature Reviews Molecular Cell Biology, Nature Cell Biology, Neuron, Nature Structural and Molecular Biology, Neuron, PLoS Biology, PLoS Medicine, EMBO Journal, Proceedings of the National Academy of Sciences USA, Journal of Neuroscience, Nucleic Acids Research, FASEB Journal, Journal of Biological Chemistry, and Bioinformatics. During the same period, 46 students received a PhD degree under the supervision of IIMCB staff.*

IIMCB is a unique scientific institution in Poland also because most of its funding comes from external competitive sources. The majority of such funding comes from European Union funds, including EU Framework Programmes and EU Structural Funds. Presently, IIMCB participates in 17 FP7 projects, including two ERC Starting Grants (RNA+P=123D and NERCOMP), one proof-of-concept ERC grant (eRNAses), and two projects implemented under the Research Potential program (HEALTH-PROT and FishMed). IIMCB has also been implementing 10 projects financed by Structural Funds, including seven distributed by the

Foundation for Polish Science (Welcome, International PhD Programme, TEAM, PARENT-BRIDGE, and VENTURE). In addition to EU sources, IIMCB scientists have received significant support from other international agencies, such as EMBO, the United States National Institutes of Health, Howard Hughes Medical Institute, Wellcome Trust, the Polish-Norwegian Research Fund, the Polish-Swiss Research Fund, Deutsche Forschungsgemeinschaft, and the International Centre for Genetic Engineering and Biotechnology. IIMCB is also very successful obtaining competitive funding from national sources. According to the National Science Center, the Institute is ranked second in Poland for the amount of successful grant applications per number of researchers, and it has a 40% success rate.

The ultimate goal of IIMCB is to do the best quality science. This can be realized by attracting ambitious and motivated scientists both from Poland and abroad. That is why one of the most important aims of IIMCB is to increase its attractiveness to researchers and provide them with a favorable working environment, high-quality research and innovation, international mobility, and a friendly and international atmosphere. IIMCB recognizes the value of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter and Code), but it wishes to enter into the official path of adopting the Charter and Code. Detailed scrutiny of European standards, analysis of our practices compared with European practices, and the identification and elimination of shortcomings will allow IIMCB to upgrade and strengthen its recruitment practices and employment conditions. This five-step adjustment process will be highly beneficial for both scientists who work and wish to work at IIMCB and our Institute itself, for which the logo "HR Excellence in Research," beyond other positive factors, will constitute a prestigious advance. By implementing the Charter and Code, IIMCB intends to foster international collaboration and contribute to the development of an open and attractive European labor market for researchers.

2. Internal Gap Analysis

In 2010, IIMCB signed the Declaration of Commitment to adopt the European Charter and Code of Conduct for the Recruitment of Researchers. IIMCB has also joined the second cohort of the Institutional HR Strategy Group. These were the first steps taken by the Institute to apply for the HR Excellence in Human Resources logo. The next step was to establish the HR Working Group and its members. To engage different groups of employees in this process, the HR Working Group consisted of IIMCB staff members, representing scientists, management, and administration. The following people were selected: Prof. Michal Witt (representing Directors and Professors), Dr. Marcin Nowotny (representing Group Leaders), Dr. Iwona Cymerman and Dr. Elżbieta Purta (representing Postdoctoral Fellows), Marcin Magnus (representing PhD Students), Beata Tkacz (Head of Human Resources Unit), and Dr. Urszula Bialek-Wyrzykowska (Head of International Cooperation Unit). The HR Working Group has elaborated a strategy for conducting internal gap analysis and developed an action plan in response to the gaps identified.

2.1. Process description and methodology

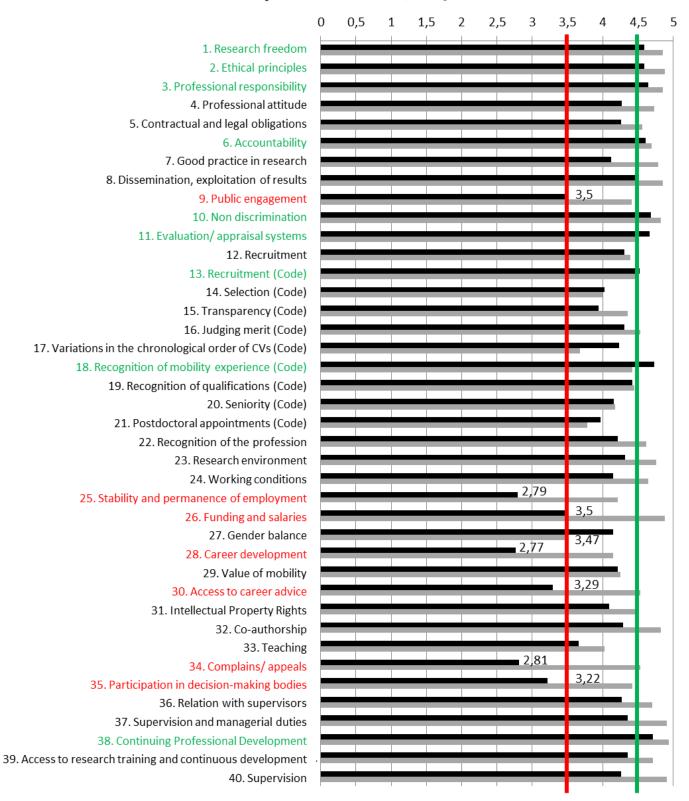
On May 25, 2011, at IIMCB, the HR Working Group organized an open meeting on Human Resources Excellence in Research. All of the scientists who work at IIMCB were invited, including Professors, Group Leaders, Postdoctoral Fellows, PhD Students, and Research Technicians. The meeting consisted of two parts. First, the participants were informed that IIMCB has adopted a Human Resources Strategy developed by the European Commission to encourage research institutions to implement the European Charter and Code of Conduct for the Recruitment of Researchers. The organizers of the meeting also explained that the main reason for all actions that seek to obtain the HR Excellence Research logo is the improvement of working conditions for IIMCB's researchers, those already working at our Institute and future colleagues. The participants were then asked to complete an anonymous questionnaire, in which they evaluated the level of implementation at IIMCB of the 40 rules included in the Charter and Code. They were also encouraged to evaluate the importance of the rules for themselves and express their opinions and suggestions on actions to be taken.

Of the total 104 IIMCB researchers invited to the meeting, 34 were present and took part in the survey (i.e., a 33% participation rate). The participants were grouped into six professional categories: Directors (2), Group Leaders (4), Senior Scientists (1), Postdoctoral Fellows (15), PhD Students (11), and Research Technicians (1). For each of the 40 items, the participants were asked to evaluate both the level of implementation at IIMCB and the importance of each item for an individual. The possible scores for each item were 0-5 points, with 5 meaning excellent.

2.2. Results

The results of the questionnaire were analyzed by the HR Working Group. The group identified two categories of results: strengths of IIMCB rules and practices with regard to Charter and Code principles and challenges that require corrective actions. The analysis of the questionnaire outcomes is presented in the graph below.

SUMMARY OF QUESTIONNAIRES Level of implementation/Importance



Graph of the results of the questionnaire.

Points identified as strengths and challenges are marked in green and red, respectively.

2.2.1. Strengths

The most highlighted items for which the level of implementation at IIMCB was higher than 4.5 and that were identified as strengths included the following: 18. Recognition of mobility experience (4.73), 38. Continuing professional development (4.71), 10. Nondiscrimination (4.68), 11. Evaluation/appraisal systems (4.66), 3. Professional responsibility (4.65), 6. Accountability (4.61), 2. Ethical principles (4.59), 1. Research freedom (4.59), and 13. Recruitment (4.52). The level of importance of these items was evaluated by the respondents as high (\geq 4.42).

2.2.2. Challenges

The most challenging items for which the level of implementation at IIMCB was \leq 3.5 were the following: 28. Career development (2.77), 25. Stability and permanence of employment (2.79), 34. Complaints/appeals (2.81), 35. Participation in decision-making bodies (3.22), 30. Access to career advice (3.29), 9. Public engagement (3.50), and 26. Funding and salaries (3.50). The level of importance of these items was evaluated by the respondents as high (\geq 4.15).

28. Career development (2.77) and 30. Access to career advice (3.29)

These two points are related to career development and advice and were assessed as poorly implemented, mainly by PhD Students and Postdoctoral Fellows. This specific area should not be formalized. The natural role of Group Leaders is to be mentors for their coworkers. However, a number of actions are planned to show the junior staff various paths of career development and strengthen their skills in career planning.

25. Stability and permanence of employment (2.79)

Dissatisfied respondents could be found throughout all professional categories, from Directors to Research Technicians. This concern stems from the rules that govern the employment of all researchers at IIMCB. According to the Parliamentary bill of Jun 26, 1997, which established IIMCB, all researchers are employed on the basis of temporary contracts, the prolongation of which depends on the scientists' research evaluation. The lack of permanence in employment is one of the characteristic features of scientific careers and cannot be easily changed at the level of IIMCB. However, complementary and compensatory actions to improve the employees' sense of employment stability can be introduced.

34. Complaints/appeals (2.81)

The evaluation of the level of implementation of requirements related to complaints and appeals was very polarized, ranging from 0 to 5. Postdoctoral researchers expressed the need to establish an ombudsman. The ideal candidate should have the following characteristics: (a) have maximum possible business independence and be widely respected at IIMCB, (b) have knowledge about the characteristics of work at IIMCB, (c) be impartial and

diplomatic, and (d) be assertive and discrete. The mediation/consultation efforts should be carried out until the issue is resolved or the mediator has exhausted all of his/her mediation skills but a consensus has still not been reached. In such a case, the mediator would be obliged to objectively present the case to the IIMCB Director. At the same time, all parties should perceive the mediator as a case representative and not a person who presents his/her own position or opinion about a case.

35. Participation in decision-making bodies (3.22)

The most concerned people about participation in decision-making bodies were PhD Students and Postdoctoral Fellows. The underrepresentation of PhD Students and Postdoctoral Fellows in decision-making bodies was also noted in 2011 by the International Advisory Board. This situation has already been changed, and specific activities were introduced, and further activities were proposed.

9. Public engagement (3.50)

This principle was judged as important by researchers from all career stages. Directors and Group Leaders expressed a high level of satisfaction with regard to the implementation of this principle at IIMCB, whereas the judgment of Senior Scientists, Postdoctoral Fellows, and PhD Students was less optimistic. These three groups of researchers reported a moderate level of satisfaction about IIMCB activities in the public sphere. IIMCB has already taken the initiative to implement a set of relevant activities and proposed new actions in this field.

26. Funding and salaries (3.5)

All respondents marked this principle as a high priority. Directors, Group Leaders, and Senior Scientists expressed quite high levels of satisfaction with regard to the implementation of this principle at the Institute, whereas Postdoctoral Fellows and PhD Students showed moderate to low levels of contentment. This may be viewed as an usual situation because the salary level at IIMCB, similar to other work institutions, is adjusted for career stage, years of experience, level of knowledge, and expertise. With regard to funding and salaries, IIMCB is governed by regulations on IIMCB staff remuneration. The final decision about salary is made by the IIMCB Director. These rates are limited, however, by the fact that IIMCB is a public research institution that is partially funded by the national budget and grants received from different national and external competitive funding sources.

3. Actions to be carried out

As described above, based on the outcome of the gap analysis, the members of the HR Working Group selected principles that require support and improvement at the institutional level. For each such principle, they outlined the current situation at IIMCB, proposed relevant corrective actions, appointed responsible personnel, and settled on a timeframe for implementation of these improvements. This Action Plan is presented in the table below.

28. Career development

Employers and/or funders of researchers should draw up, preferably within the framework of their human resources management, specific career а 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.

30. 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.

Current practices at IIMCB:

- Ordinance on raising professional qualification of employees (5/2010)

The specific area of career development is not formalized. The natural role of Group Leaders is to mentor their co-workers. PhD Students and Postdoctoral Fellows regularly participate in complementary skills training on scientific communication organized within the Institute.

Improvements implemented:

- 1. In 2012-2013, a series of open workshops for IIMCB researchers were organized by the IIMCB Technology Transfer Unit (BioTech-IP) on work, teams, projects, time management, and patenting and commercializing research results (11 courses in 2012 and 15 courses by Sep 30, 2013). Additionally, training on the Euraxess portal was delivered to IIMCB researchers by the Polish Euraxess NCP expert (Nov 15, 2011).
- 2. The Journal Club is a monthly open discussion forum organized by and for PhD students from all IIMCB laboratories. The Journal Club allows young scientists to present, discuss, and exchange opinions about the most recent publications from different fields in molecular and cell biology. These meetings open discussions on different fields of related science and foster professional and social networking between young researchers.
- 3. The first PhD Students Winter Camp was held on Feb 15-19, 2012, the main aim of which was integration and career development. Eleven IIMCB PhD students attended.

Improvements planned:

1. A series of eight workshops to be organized on work, teams, projects, time management, and patenting and commercializing research results.

Who: BioTech-IP

When: first course in Oct 2013 and 2014

- 2. Journal Club meetings continued every month
- 3. Organization of an integration camp for PhD Students with a session devoted to career development and career advice.

Who: Representatives of PhD Students

When: Feb 2014 and 2015

4. Course on Research Integrity and Responsible Conduct of Research, IIMCB, expert Prof. Nils Axelsen, Statens Serum Institute, DK (15 PhD Students and four Senior Scientists) Who: International Cooperation Unit

When: Sep 30-Oct 3, 2013

5. Career development lectures given by distinguished scientists: Prof. Gottfried Schatz, University of Basel, Switzerland ("Science and the Modern University") and Prof. Ineke Braakman, Utrecht University, NL ("From Pharmacy to Molecular and Cell Biology"), Inauguration of the Academic Year of Biocentrum Ochota, IIMCB. Expected audience: over 300 PhD students from Ochota Campus; 55 PhD students from IIMCB.

Who: Representatives of PhD Students

When: Oct 25, 2013

6. Organization of seminars/discussion panels every 2 years on career development for advanced PhD Students (3rd-4th year). The aim will be to present various pathways of career development based on the examples of former IIMCB researchers invited to such meetings (company employees, science managers, editors of scientific journals, scientific journalists, EC officers, etc.).

Who: HR Working Group When: Sep-Oct 2014 and 2015

7. Distribution within the Institute (via internet, on the hallway information board) of information about available posts/fellowships/training and workshops on career development.

Who: International Cooperation Unit, Domestic

Grants Unit, BioTech-IP When: Ongoing process

8. Acting as a local contact point for Euraxess portal, and encourage scientists to use, manage, and take advantage of it.

Who: International Cooperation Unit

When: Ongoing process

25. 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

<u>Current rules and practices at IIMCB</u>: No permanent positions are available for scientists. As a rule, researchers spend one career step in one laboratory. However, because IIMCB laboratories have complementary interests, if the opportunity arises,

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*.

then young researchers are free to seek further employment in a different laboratory within the Institute.

Improvement proposals: To compensate for the lack of permanent positions, we propose to strengthen activities related to career development and career advice. Better qualified, skilled, and informed researchers allow them to find satisfactory employment and more smoothly adapt to new conditions and environments. Improvements proposed for point 25 are coherent with points 28 and 30 described below.

34. 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.

Current practices at IIMCB:

- Ordinance regarding the implementation of Good Scientific Practices (2/2006)
- Ordinance regarding the announcement of regulations pertaining to investigating and making decisions on accusations of scientific misconduct (3/2006).

Improvements planned:

1. Appointment of an Ombudsman at IIMCB to act as a mediator in complaint/appeal cases (Postdoctoral Researcher initiative). The Ombudsman will have the following characteristics: independent, professional, respected, impartial, assertive, and discrete.

<u>Who</u>: Director following recommendations from the HR Working Group

When: First quarter of 2014

2. Development of appropriate procedures.

<u>Who</u>: HR Working Group <u>When</u>: First quarter of 2014

35. 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.

Original rules and practices at IIMCB: According to the IIMCB Founding Regulation, decision-making is the responsibility of the IIMCB Director who is supported by the International Advisory Board.

Improvement introduced:

- 1. In 2012 and 2013, IIMCB organized closed meetings of International Advisory Board members with PhD Students and separately with Postdoctoral Fellows. It gave young scientists the opportunity to talk directly to IAB members and present their opinions, expectations, and problems. These meetings laid the foundation for two important initiatives:
- Yearly closed meetings of PhD Students and Postdoctoral Fellows with IAB members became a regular and binding practice at IIMCB.
- PhD Students and Postdoctoral Fellows elected their

representatives to actively participate in IIMCB management activities. These representatives take part in relevant meetings with Directors and Group Leaders, during which they express their opinions and participate in decision making.

9. 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.

Current rules and practices at IIMCB:

- IIMCB is a co-founder of the Centre for Innovative Bioscience Education (BioCEN), which is engaged in various educational activities aimed at reducing the gap between science and society in Poland (http://www.iimcb.gov.pl/cibe.html). BioCEN runs laboratory workshops for students, practical courses for biology teachers, and open lectures. They develop and supply schools with innovative equipment and materials, such as experimental kits, practical protocols, classroom activities, and games. BioCEN also contributes to public events, popularizing science such as the Warsaw Science Festival and Science Picnic.

Improvements introduced:

- 1. Drafting strategic aims that lead to wider visibility of IIMCB among wide public and other non-specialist target groups, such as patient organizations, businesses, representatives of local public administration, and the media.
- 2. Establishing cooperation with local authorities. For example, IIMCB and the city of Warsaw participate in an INTERREG project focused on technology transfer in biotechnology (2012-2014).
- 3. Employment of a professional Public Relations Manager in 2013 responsible for the development of the public relations and visibility strategy and its coherent and continuous implementation.

Improvements planned:

1. Elaboration and implementation of a short-, medium-, and long-term public relations strategy among non-scientific communities.

<u>Who</u>: Public Relations Manager

<u>When</u>: Ongoing process starting with the recruitment of the Public Relations Manager. Foreseen delivery date of public relations strategy: May 2014

26. 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 sectorial 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

Current rules and practices at IIMCB:

- Ordinance on rules of employee remuneration and annual bonuses (1/2012)
- Ordinance on the bonus rules (2/2012) IIMCB is funded by various sources: subvention from national sources (~20%), domestic and foreign competitive grants (~80%). The majority of researchers are funded by external competitive sources. This gives the opportunity to achieve more decent salaries with social security provisions, but such employment is guaranteed only for a period of a grant's duration.

IIMCB employees can also benefit from:
- a private medical care program in which IIMCB is
enrolled. It is free of charge for PhD Students and has
preferential rates for the rest of employees.
- a social support
Improvements introduced:
Developed system of information on open calls for
proposals for project funding from domestic and
European/international sources.
Laropeany memational sources.
Improvements planned:
1. Strengthened strategic planning of sustainability of
employment of researchers through:
- early checking of possible funding opportunities and
planning applications for future grants
- developing innovative and competitive research
projects that are amenable to receiving continuous
support
- when possible, organization of research stays
abroad at foreign partnering institutions for a precise
period of time with guaranteed return to IIMCB.
Who: Group Leaders, Senior Scientists, and
Postdoctoral Fellows in cooperation with
International Cooperation and Domestic Grants Unit.
When: Ongoing process
TYTICII. Ongoing process

4. Conclusions

Adherence to the 2nd Cohort of the Institutional HR Strategy Group and development of the process of internal analysis at IIMCB was highly beneficial for all members of the Institute. It allowed them to become familiarized with the principles of the Charter and Code. For the first time, IIMCB researchers could articulate what is most and least important to them in this area and ponder and express opinions on the level of implementation of the most crucial HR principles at their work place.

The HR Working Group assessed the outcome of the internal gap analysis as quite positive. Of 40 Charter and Code principles listed on the questionnaire, as many as nine were judged by researchers as definite strengths of IIMCB, and nine were identified as challenges to be improved. This relatively small number of weak points allowed the HR Working Group to concentrate on each challenge, analyze them, and plan relevant actions.

The weak points identified can be enhanced by the Institute's own means and resources. Part of the corrective actions elaborated by the HR Working Group was already introduced and has had positive outcomes. For example, the newly elected representatives of Postdoctoral Fellows and PhD Students have already presented valuable and feasible initiatives to improve the listed weaknesses.

IIMCB is a young research institute that is still developing in terms of staff, research, research support, and management. A flat hierarchical structure, young staff who prevail at the

Institute, and a vibrant atmosphere favor the introduction and implementation of changes, improvements, and new initiatives. The actions proposed by the HR Working Group were widely accepted by the Institute's Director, Group Leaders, and representatives of other units engaged in the corrective actions.

Notwithstanding the actions introduced and proposed in the Charter and Code Action Plan, IIMCB will also implement horizontal improvements to enhance internal communication. On Jan 1, 2013, a Public Relations Manager was employed at the Institute. IIMCB has never had such an independent position within its structure. However, as the Institute expands, the need for such a specialist has become evident. The public relations specialist, who will also be responsible for internal communication, will contribute to the development of public engagement principles and horizontally enhance the overall process of implementing the Charter and Code Action Plan. The new Public Relations Manager will introduce new communication means and channels that will make information more accessible to all. The announcements and reports provided will refer directly to actions to be introduced within the Charter and Code strategy and convey information about the Institute and its performance. More informed and well-oriented staff members allow a better understanding and acceptance of any actions taken, processes implemented, and changes made at the institution.

As written in the introduction above, one of IIMCB's most important aims is to attract ambitious and motivated scientists, both from Poland and abroad. As the Institute hosts increasingly more young researchers from abroad, the decision was made to institutionalize support for foreign newcomers. Since Aug 2013, one of the Institute's administrative employees, Ms. Izabela Zacharek, assumed additional responsibilities to provide foreigners with complex assistance related to formal, administrative, and social matters regarding their stay in Poland (e.g., visas, health insurance arrangements, accommodations, and practical advice). Ms. Zacharek also acts as a point of contact for all foreign scientists who work at the Institute. She integrates them and disseminates practical information that might be of interest.