

REPORT of the INTERNATIONAL ADVISORY BOARD
RESEARCH ACTIVITIES of 2010-2011
Jerzy Haber Institute of Catalysis and Surface Chemistry,
Polish Academy of Sciences

Introduction

The Jerzy Haber Institute of Catalysis and Surface Chemistry PAS (shortly indicated as Institute hereinafter) addresses a field at the interface of chemistry, physics, biology, engineering and material sciences that enables chemical processes to be realized with cost-, energy- and eco-efficiency, thus making a key contribution to:

- (i) sustainable energy and mobility;
- (ii) rational use of resources;
- (iii) quality of life and health;
- (iv) environmental protection;
- (v) cultural heritage preservation.

To address these relevant socio-economical issues it is necessary to have a critical mass of well-integrated competences, which can combine the fundamental knowledge and an applied vision. It is necessary to coherently integrate competences on dry and wet surfaces, and therefore it is appreciated that the Institute collects expertise and research on fundamental and applied catalysis, surface and interface science, and material and colloid science.

Research, education and promotion of science

The Institute is well suited to achieve the above objectives and has its points of strength in the following aspects:

- The Institute has a leading position in Poland. It was ranked in 2010 by the Polish Ministry of Science and Higher Education (hereinafter indicated as Ministry) at the 2nd place among 41 Polish research chemical institutions. It is well positioned in the European Research Area and has worldwide visibility. The high number of research contracts, as well as the participation in European projects and networks in all the fields of expertise of the Institute is remarkable. The Institute has established a good number of international collaborations.
- The Institute holds multi-disciplinary competences, going from fundamental and applied aspects of catalysis, advanced materials, interface and colloid science, cultural heritage protection. It combines theoretical and experimental expertise. It provides a forum for sharing ideas and concepts.
- Publications and conference contributions, keynote and plenary lectures at national and international meetings, are in line with international standards and above the requirements indicated by the Ministry.
- The ratio of the number of PhD and master students over available supervisors is good and well distributed among the research groups. The number of students was increased with respect to the previous evaluation due to the effort in obtaining special grants and to the good relations with universities. The Institute achieves excellent integration of research and education.
- The effort towards public awareness on science remains outstanding.

D. P.
P. P.
VP EB

Funding aspects

Running an Institute with a strong fundamental research programme requires a good balance of institutional, national and international funding. The Institute has made a good effort to search for national and international funding via open calls to complement the limited governmental budget. The Advisory Board feels that this direction should be further strengthened with an increased effort to the possibilities offered for international PhD students, such as the Marie Curie-grants, and for research projects supported by companies. The Advisory Board appreciates the significant amount of funding provided by the Ministry for new equipment and maintenance of the infrastructure. The Institute was able with this support to acquire unique experimental facilities.

Personnel policy

The Institute has significantly increased the number of PhD students due to the growth in the number of grants and new types of projects to support PhD and post-docs. The Advisory Board appreciates that the amount of the individual grants was increased. Effort should be dedicated to attract foreign PhD students and post-docs. The international mobility of both senior and young researchers to strength collaborations should be promoted.

The fundamental research vision of the Institute requires continuity in human resources and knowledge transfer, and promotion of the individual quality and excellence. The Advisory Board appreciates Institute's policy for selection and promotion of young researchers, and the effort given to increase internal and external collaborations at national and international level.

Scientific productivity

The Advisory Board is satisfied with the scientific productivity, both with respect to quality and quantity, and above the criteria indicated by the Ministry.

Relations with the industrial sector

The Advisory Board appreciates a progress in the relations with industry as documented by the patents, expertise reports and the projects with Polish institutions, and with national and foreign industry. A further promotion of these activities is necessary to consolidate the research activity of the Institute.

Opportunities

The new research facilities of the Institute extend the opportunities for new topics and collaborations in the area of surface and material science, and catalysis.

P. D.
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Recommendations

Funds:

The management of Institute should be congratulated for attracting a high level of external funds for research, equipment and students. It is necessary to continue this effort and look at all possibilities to increase this external funding to contrast the decreased statutory budget.

Structuring research:

The effort to aggregate the research topics into larger common projects should be continued to highlight the identity and increase the visibility of the Institute. The Advisory Board considers as positive the formation of groups guided by young people via projects/funds they obtained in „hot” areas of research. The Advisory Board recommends the Institute to continue in this direction for an optimal balance between research independence and the need to reduce fragmentation.

Expanding scientific capacities:

The Institute has progressed in collaboration with other institutions specialized in chemical engineering. The Advisory Board recommends continuing in this direction and creating also internal competences in the field of chemical engineering that could complement the existing field of expertise and foster the interaction with companies.

IT infrastructure:

The IT facilities have been restructured and audited on the legal aspect. The creation of a faster Internet line (optical cable) will improve the capacity of scientific information, communication and data elaboration, particularly important for the theory and modelling, which are points of excellence of the Institute.

Publications:

The quality of the publications is good and above the requirements of Ministry. A further effort should be dedicated to publish in high impact factor journals and in preparing high quality reviews to strength the international visibility.

International mobility:

The Advisory Board encourages an effort in attracting foreign students and scientists, and in promoting international mobility.

Krakow, January 31st, 2012

International Advisory Board

Name

Signature

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