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BIO-TALENT

The BIO-TALENT - the Department of Integrative Plant Biology

Success and outcomes of the BIO-TALENT project



by the Director of IPG PAS

The Institute before and after the BIO-TALENT project is not the same, it is a completely different entity. First of all, there is a totally new branch of study present in the research performed on site. The integrative plant biology is joining numerous techniques in plant research. This research direction was never present in the Institute and it was widely unknown for us. Moreover the Institute became the place for many international PhD students and postdocs. We currently have persons from different continents and countries, working on day-to-day basis. The staff is changing quite quickly, we receive many mobile researchers, coming and going, moving between labs, working in different projects. The number of national projects as well as the international exchange has greatly increased.

Core staff of the Institute is currently more eager to employ foreign researchers. We have prepared new labs for the BIO-TALENT team and the Institute has been restructured. New equipment has been purchased eg. the high quality microscope with laser caption. Our Institute became more visible. From the administrative point of view it was a big effort, as all rules and regulations had to get adapted to the new situation. After 5 years, the international team is no longer regarded as new. The researchers have integrated to a great extent. I am proud and pleased the Institute managed to fulfill all tasks and obligations of the project.

Composition of teams in the Department of Integrative Plant Biology

The Department of Integrative Plant Biology is a team composed of young researchers. The Department currently hosts 7 PhD students, with 3 employed from the funds of the BIO-TALENT project and 4 employed from the projects funded by the National Science Centre (NCN). The most recent composition of the Department of Integrative Plant Biology and the current affiliation of the PhD students to the research teams is as follows:

Plant Systems Biology Team

Leader: Assoc. Prof. Robert Malinowski (ERA Chair Holder, Poland)

Staff:

- Dr Karolina Stefanowicz (junior researcher, Poland)
- Dr William Truman (junior researcher, United Kingdom)
- Fatema Bakro, MSc Eng. (PhD student, Syria)
- Sara Blicharz, MSc Eng. (PhD student, Poland)
- Soham Mukhopadhyay, MSc (PhD student, India)
- Juan Camilo Ochoa, MSc (PhD student, Columbia)

Nanotechnology and Biosynthesis of Secondary Metabolites Team

Leader: Dr Gregory Franklin (senior researcher, India)

Staff:

- Dr Selvakesavan Rajendran Kamalabai (post-doc, India)
- Dr Karthik Siram (post-doc, India)
- Preeti Shakya, MSc (PhD student, India)
- Dariusz Kruszka, MSc (PhD student, Poland)

Cell Wall by Design Team

Leader: Dr Jorge Almiro Pinto Paiva (Portugal)

Staff:

- Dr Andrea Pagano, (post-doc, Italy)
- Carolina Gomes, MSc (PhD student, Portugal)



The composition of the Advisory Board

The project has its own Advisory Board, as follows:

Marie-Hélène Balesdent
INRA-UMR 1290 Bioger

Jaroslav Doležel
Centre of Plant Structural
and Functional Genomics

Robert Matysiak
EMEA Fungicide Development

Main observations of the Advisory Board

During the preparation of the final report the Advisory Board was impressed by the results achieved by the BIO-TALENT team in the relatively short time, considering the delayed start of the project. Despite this, the new Department was established successfully and currently includes three research teams, with 1 leader, 2 additional PIs, 4 postdocs, and 8 PhD students. The Advisory Board also noted a big progress the team made since the last visit of the Board in Poznan.

The achievements in research work were documented by a series of high quality publications in scientific journals, which reached the planned number of 22 papers (with one paper still under review). All of these papers were published in journals with high impact factors or as book chapters. Two recent papers published by the team of the ERA Chair, Associated Professor Robert Malinowski were published in prestigious scientific journals with very high impact factors and big international esteem.

The BIO-TALENT team was actively engaged in the integration into the international scientific community and this activity had a positive impact not only on the team itself, but on the whole institute. The team has acquired an international dimension. The project introduced seminars and journal clubs in English, (the latter previously unknown to the institute). Each PI contributed in its own way to the dynamism of the department by teaching, acceptance of Erasmus students, leading of the Journal club, and international collaborations. The Advisory Board appreciated the different and complementary types of involvement of each PI in the life of the institute. Noticeably enough is the fact that the PI from Portugal, Dr. Jorge Paiva, represents Poland in the COST action on RNAi.

The BIO-TALENT team was actively engaged in securing funding to support their research work. The Advisory Board appreciated that the Department succeeded in obtaining seven NCN projects granted to the BIO-TALENT department, covering all aspects of the research undertaken by the Department, for the total amount of more than 7 Million PLN (1.65 Million Euros). The team also succeeded in obtaining funding for the acquisition of a state-of-the art microscope with laser caption, which was a separate project allowing to purchase the new equipment for the Institute.

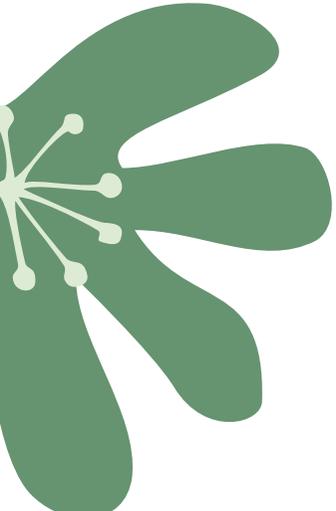
Three of these projects will be finished in mid-2019, i.e., concomitant with the end of the EU ERA Chair Grant for the Bio-Talent, but four remaining projects will continue till 2020 or even till 2021.





To conclude, the Advisory Board considered the BIO-TALENT project very successful. It stimulated and supported the establishment of a dynamic, international team of young, motivated and talented researchers and students. Members of the team pursued very original research, including nanotechnologies. This is a new situation for the hosting institute with many positive effects on its life and function. The project brought new lines of advanced research in the field of integrative biology and succeeded in enhancing the collaborative capacity of IPG PAS and its visibility in Europe.

Cooperation with the industry: European Industrial Doctorate (EID)



The Advisory Board was impressed by the number of links with business companies connected with the European Industrial Doctorate (EID) of the PhD student Fatema Bakro. Her research is directed to the introduction of oilseed hemp to light and acidic soils, which are currently regarded as totally inappropriate for the cultivation of hemp. The PhD student performed her experiments on Next Generation Sequencing service of the soil microbiome at the German company GenXPro located in Frankfurt am Main. The studies of plant metabolites were done at the University of Turin in Italy. The members of the Advisory Board are pleased that three Italian companies running business on hemp products (Fabbrica Agricola Cannabinoids Torino - FACT, GreenValley and Enecta), got interest in the research done by Fatema Bakro. The Board members underline that FACT company agreed to share their facilities for performing the current hemp project for the industrial doctorate of the student, what shows their real and deep interest. Moreover, the Advisory Board underlined that the doctorate is done with the help of a few other business companies, including Agrii Ltd., Evergreen Solutions/Vantage and Mykoflor. The representatives of these companies sent letters of interest and support and/or visited the Institute of Plant Genetics PAS to discuss the possible ways of their support to EID. Thus, the deliverable of EID has been fulfilled.

BIO-TALENT past and future



During the time of the BIOTALENT project the Department of Integrative Plant Biology (DIPB) became an integral part of the Institute of Plant Genetics Polish Academy of Sciences. DIPB became a good example of successful international cooperation for the whole Institute and the international cooperation of the Institute has been enhanced. The Institute became a fully English-speaking environment, as such it is possible to invite numerous foreign researchers. The administrative rules and regulations are elaborated and they are used routinely. The whole Institute profits from its international visibility, gaining new projects and collaborations. DIPB has become the separate department of the

Institute and it will continue operating in this way also in future. The team recruited for DIPB has a broad research expertise, has appropriate and complementary skills, represents various research areas, shows great mobility and creates a multicultural, stimulating environment. Some of the achievements are commercially valuable. The gender of DIPB is well balanced. The project has achieved most of its objectives and technical goals with relatively minor deviations. The members of the DIPB team have been offered contracts from the Institute and most of them have been already signed. As such, the sustainability of the project has been fully secured and the new Department created based on EU-funded ERA Chairs became an integral and permanent part of the research structure of the Institute and part of the European Research Area.

In the opinion of the Advisory Board the BIO-TALENT project was a success and the Institute of Plant genetics PAS greatly benefited from the project and became a part of the European Research Area.

A few last glimpses at the BIO-TALENT project



by the BIO-TALENT Project Coordinator

The Department of Integrative Plant Biology (DIPB) became an integral part of the Institute of Plant Genetics PAS. Originally the Department had its own, very specific characteristics, being the only one with the international, English speaking team. The Institute gradually translated all rules and regulations into English. At present all previous and all new regulations are available in two language versions and the Polish and English website of the Institute (www.igr.poznan.pl) are compatible. New administrative officers and service persons are accepted in the Institute provided their command of English is sufficient to communicate with the English-speaking researchers. DIPB is currently still the most international department, however, many foreign researchers and PhD students have been accepted ever since into the other five departments of the Institute. DIPB became a good example of successful international cooperation for the whole Institute and it is sure, the international cooperation of the Institute has been enhanced for good. The foreign researchers and students bring their own contacts, skills, ways of work and its organization and the whole Institute profits from this international visibility. The Institute became an English-speaking environment. DIPB is the separate department of the Institute and it will stay in its structure. The team recruited for DIPB has been offered contracts so the sustainability of the project has been fully secured. The new department created based on EU-funded ERA Chairs project became a lasting part of the research structure of the Institute.

