



Post-transcriptional Gene Expression Regulation in Plants

June 30th - July 2nd 2014
Poznań

Collegium Biologicum
Adam Mickiewicz University

Organizers, Patronage, and Sponsors



Wielkopolska Centre for Advanced Technologies (WCAT) and its mission



Wielkopolska is among the leading academic centres in Poland, harbouring a great R&D potential. The essence of the comprehensive knowledge transfer model, generated and pursued in the city of Poznań, the capital of Wielkopolska region, is building an effective relationship between *invention*, pursued at universities and research institutes, and *innovation*, developed at the Poznań Science and Technology Park of Adam Mickiewicz University Foundation, by creating all elements necessary for the effective transfer of knowledge, especially Polish scientific and technological achievements, to business practice.

At the core of the model is the Wielkopolska Centre for Advanced Technologies (WCAT) in Poznań, a multi-disciplinary institution focused on design and characterisation of new materials and biomaterials of multiple applications.

The main aim of the foundation of Wielkopolska Centre for Advanced Technologies– Materials and Biomaterials (WCAT) in Poznan, is to create a multidisciplinary research centre in the field of high-tech materials, biomaterials and nanomaterials based on recent achievements in related fields of chemistry, chemical technologies, physics, biotechnology, biology, medicine, pharmacy and agriculture sciences.

WCAT brings together the best specialists of natural and engineering sciences and is an infrastructural venture of the Poznań scientific community. The Centre is a consortium of five universities: the Adam Mickiewicz University (AMU), which is the project coordinator, Poznań University of Technology, Poznań University of Life Sciences, Poznań University of Medical Sciences and Poznań University of Economics; four institutes of the Polish Academy of Sciences: the Institute of Bioorganic Chemistry, Plant Genetics, Human Genetics, and Molecular Physics; Institute of Natural Fibres and Medicinal Plants; and the Poznań Science and Technology Park of the Adam Mickiewicz University Foundation and City of Poznań. The project is based on the research know-how and credibility of leading scientists, working in the key institutes of the regions.

The objective of the multidisciplinary activity of the centre is to develop original methods for synthesis of chemicals, biochemicals and agrochemicals, called fine chemicals, and a new generation of biomaterials and nanomaterials and their precursors, designed in cooperation between the chemists, physicochemists and biochemists. These research activity will be followed by the development of advanced technologies



INNOVATIVE ECONOMY
NATIONAL COHESION STRATEGY



EUROPEAN UNION
EUROPEAN REGIONAL
DEVELOPMENT FUND



and biotechnologies for the production of these fine (bio)chemicals and precursors of materials to be used in optoelectronics, ceramics, medicine, pharmacy, agriculture and other fields of high-tech industry. Another objective of WCAT is to create a technological basis for a number of applications for bioorganic chemistry and biotechnology in healthcare (e.g. molecular and cellular therapies and medical diagnostics) as well as applications in agricultural engineering and in the food industry (e.g. DNA tests in plant and animal production, biodegradable packaging and etc.).

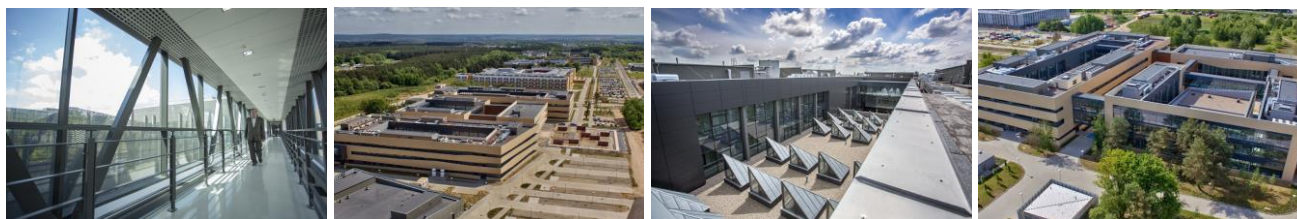
The special mission of WCAT is to develop multidisciplinary projects involving fundamental research in the material sciences but simultaneously leading to advanced technologies and/or products subsequently implemented in incubators of the innovative firms localized in Poznań Science and Technology Park, and other industrial and technological parks, and innovative small and medium firms as well as by international industry. The start-up companies and innovative SMEs will be at the heart of WCAT mission.



To reach the complex goals mentioned above, we committed to ensure permanent cooperation between all units of WCAT i.e. Centre of Chemical Technology and Nanotechnology, Centre of Industrial Biotechnology with a Greenhouse, Centre of Medical Biotechnology with an Animal House, Centre of Material Sciences with a Regional Laboratory of Unique Equipment, functioning as one research organism.

As emphasized, the Regional Laboratory of Unique Equipment should be of service to all other units of WCAT. The Laboratory has highly specialized equipment which will be available for use by the scientific community and small and medium enterprises from the region as well as R&D centres of Polish and international (European) companies. The Service and Technical Facilities with the Technology Transfer Centre will ensure efficient collaboration among all parts of WCAT.

The vision of WCAT is to include existing organizations (universities, research institutes, and science-technology park) to act like one independent entity, which will generate synergies by combining the work of the best scientists, as an independent institute modelled on the Fraunhofer Society (most experienced of R&D Centres in Europe with 60-70 years tradition).



The WCAT project is co-financed (85%) by the European Regional Development Fund under the Operational Programme Innovative Economy 2007-2013 with total budget 63 million EUR.



----- www.wcat.pl -----

Wielkopolska Centre for Advanced Technologies, Umultowska 89c, 61-614 Poznan, Poland



Faculty of Biology

Dean – Prof. Bogdan Jackowiak

The Faculty of Biology is one of the fifteen faculties of Adam Mickiewicz University (AMU). It achieved its present institutional form in 1984, but natural sciences were always present at AMU since the very origin of the University in 1919. Today, the Faculty is organized into four institutes: Anthropology, Experimental Biology, Molecular Biology and Biotechnology, and Environmental Biology. These are further divided into 27 departments and five laboratories. In addition, there are also six central laboratories, four of which host core facilities of the Faculty (isotopic lab, electron and confocal microscopy lab, molecular biology techniques lab, and phytotron facility), one that groups all the natural collections, and one that specializes in educational issues. At present, the Faculty comprises more than 300 employees with roughly 200 academic staff. Its strength is built around ca. 40 full professors and 40 AMU professors; 1400 students, studying various full-time or extramural study programs, together with 150 PhD students, complement the whole community. The Faculty is seated in *Collegium Biologicum*, part of the state-funded state-of-the-art AMU Morasko campus located on the outskirts of Poznań.

The Faculty of Biology AMU offers an outstanding research environment coupled with world-class state-of-the-art infrastructure. The Faculty staff has been engaged in EU FP6/FP7 funded research projects, such as AEROTOP, MONALISA, FUNGEN, CONTRASTRESS, EURASNET, EVOLGEN, HIALINE; the Marie Curie Actions. Moreover our research projects were supported by the Norwegian financial mechanism, European Structural Funds, Ministry of Science and Higher Education, Ministry of Agriculture and Rural Development, National Science Centre and Foundation for Polish Science. In May 2014 “Poznań RNA Centre” formed by the Faculty of Biology AMU in Poznań together with the Institute of Bioorganic Chemistry, Polish Academy of Sciences received a status of Leading National Research Centre – first of only two such institutions in biological sciences in Poland.

In August 2014 we open recruitment for students wishing to acquire M.Sc. in Biotechnology. This program continues the successful study program established within a framework of the UNIKAT project co-funded by the European Union within the European Social Fund. For more details see – www.unikat.amu.edu.pl. These studies emphasize molecular biology, genetics, gene therapy and systems biology approaches, and aims to give practical training and advanced knowledge in bioeconomy and biotechnology legislation.



INSTITUTE OF BIOORGANIC CHEMISTRY POLISH ACADEMY OF SCIENCES

Director – Prof. Marek Figlerowicz

The Institute of Bioorganic Chemistry Polish Academy of Sciences (IBCH PAS) was established over 25 years ago. The process of IBCH PAS formation dates back to 1969 when the Department of Stereochemistry of Natural Products was brought into being at the Institute of Organic Chemistry PAS. In 1980, the Department of Stereochemistry of Natural Products was transformed into an independent entity - Department of Bioorganic Chemistry PAS. In 1988, the latter was finally converted into the Institute of Bioorganic Chemistry Polish Academy of Sciences. Today, together with the affiliated Poznan Supercomputing and Networking Center, the IBCH PAS has more than 460 staff members, including 100 research scientists (33 Professors). In addition, about 80 Ph.D. students are currently involved in the research projects conducted at IBCH PAS.

The scientific portfolio of the Institute has many dimensions: synthesis and structure of natural products, in particular nucleic acids and their components; biochemistry, molecular and structural biology of model biological systems, genetic engineering, genomics and bioinformatics. IBCH PAS is authorized to confer the degree of doctor and habilitated doctor in chemistry and biochemistry.

The Institute is organized into 10 research departments and 6 core laboratories. Within the structure of the Institute, there are also other crucial units associated: the PAS Poznan Science Center, Scientific Publishers, Guest Rooms, and Library. In the latest years, the Institute in collaboration with the Poznan University of Technology have created a European Center for Bioinformatics and Genomics, a unique unit in Poland.

Z. Noskowskiego 12/14, 61-704 Poznań, Poland
tel: (+48) 061-852-85-03, 061-852-89-19
fax: (+48) 061-852-05-32
e-mail: ibch@ibch.poznan.pl

www.ibch.poznan.pl



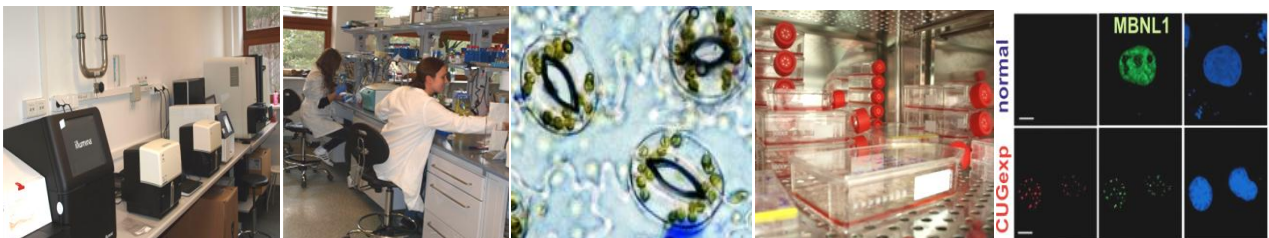
Institute of Molecular Biology and Biotechnology

The Institute of Molecular Biology and Biotechnology (IMBB) at the Faculty of Biology of Adam Mickiewicz University in Poznań, Poland was created in 1992. The Institute's mission is to perform outstanding research to reveal functions of the cell and organism at the molecular level. Organisms belonging to all domains of life are studied in IMBB: bacteria, animals, fungi, and plants. Studies encompass basic research on gene expression regulation, epigenetics and other aspects of chromatin structure, microRNA, alternative splicing, molecular mechanisms of translation regulation, molecular basis of energy conversion as well as understanding of renal disease, viral infection, atherosclerosis and myotonic dystrophy at both the molecular and clinical levels. In addition, the IMBB scientists are also involved in translational science developing assays for diagnostic and prognostic applications in various human diseases, identifying and characterizing novel therapeutic targets, searching for small molecule inhibitors of RNA-protein interactions that can be used as drugs, and developing therapies involving antisense oligomers to treat myotonic dystrophy. In IMBB the molecular basis of plant response to various environmental cues is also intensively studied. This part of IMBB research is strongly connected with agrobiotechnological tasks to obtain crop plants that are more adaptable to changing climate conditions. Bioinformatics is recognized as a fundamental component of modern biology. For the past several years, IMBB has invested numerous resources for the development of this dynamic field. Computational biology at IMBB is focused on genome analysis and gene discovery, comparative and evolutionary genomics, and on general mechanisms of evolution. Moreover, studies on the relationship between the sequence, structure and function of proteins and RNAs, as well as the modelling of RNA-protein structures, are also conducted. An important goal of *in silico* studies performed at IMBB is the discovery of new drugs that is carried out in close collaboration with molecular biologists and clinicians. One of the most important activities of IMBB bioinformaticians is the development of advanced algorithms to support biotechnological research. A strong connection between computational analyses and bench experiments is a trademark of IMBB.

Scientific cooperation is stimulated and supported by international research projects within the limits of bilateral agreements and programs of the European Union and the organization of the international workshops and conferences.

Our PhD program is designed to prepare young scientists for successful careers in research, teaching, and industry throughout the world. If you are interested in applying please contact directly any of the IMBB group leaders or contact the IMBB secretariat (ibmib@amu.edu.pl).


For more information see the IMBB webpage <http://ibmib.amu.edu.pl/>





Poznań RNA Research Centre

Leading National Research Centre - KNOW



In 2011, a new Act on Higher Education created a possibility to establish the most prestigious status of KNOW – Leading National Research Centre. This status, assigned through competition, can only be given to institutions carrying out scientific research at the highest level and providing PhD studies of the highest quality. Till now 6 KNOW centres have been named in exact sciences (mathematics, chemistry, physics) and medical sciences. In 2014, 4 new KNOW centres have been named in natural sciences, and in agriculture, forestry and veterinary sciences. On May 15th, The Poznań RNA Research Centre consisting of the Faculty of Biology, Adam Mickiewicz University in Poznań and the Institute of Bioorganic Chemistry, Polish Academy of Sciences, received KNOW status in biological sciences for 5 years. This status is closely related with additional state funds aimed at improving the quality of science and education. Up to 50 million Polish zlotys will be transferred from the Polish Ministry of Science and Higher Education to the Poznań RNA Research Centre. The money will support various aspects of RNA research from basic research on RNA metabolism, through more applied studies on RNA viruses and the role of RNA in cancer and inherited diseases and their therapies, up to the development of bioinformatics tools allowing advanced structure-function studies.

Four new research groups will be created. Moreover, the Centre will open a new international school for PhD students. For young scientists from other scientific institutions a special fund will be created to provide financial support for training in RNA research techniques. All information about the recruitment of new group leaders as well as details on our international PhD program will be announced soon on the newly created Poznań RNA Centre webpage. All young scientists are welcome to apply!

Photo: Krzysztof Durkiewicz, MNiSW

Umultowska 89, Collegium Biologicum, 61-614 Poznan
tel. +48 61 829 55 52, fax +48 61 829 56 36
biologia@amu.edu.pl

www.biologia.amu.edu.pl

Z. Noskowskiego str. 12/14, 61-704 Poznan
tel. +48 61 852 85 03, fax +48 61 852 05 32
ibch@ibch.poznan.pl

www.ibch.poznan.pl

Honorary Patronage

RYSZARD GROBELNY

PROF. BRONISLAW MARCINIAK

PROF. BOGDAN JACKOWIAK

PROF. EWA LOJKOWSKA

PROF. ANDRZEJ K. KONONOWICZ

Mayor of the City of Poznan, Poland

Rector of the Adam Mickiewicz University in Poznan, Poland

Dean of the Faculty of Biology, Adam Mickiewicz University
in Poznan, Poznan, Poland

President of the Polish Society of Experimental Plant Biology

former President of the Polish Society of Experimental Plant
Biology

Organizing Committee

Session 1.

ANDREA BARTA

JOHN BROWN

Regulation of pre-mRNA processing

Medical University of Vienna, Vienna, Austria

University of Dundee at the James Hutton Institute and the

James Hutton Institute, Dundee, Scotland, United Kingdom

Session 2.

JOANNA KUFEL

RNA turnover and surveillance

Warsaw University, Warsaw, Poland

Session 3.

MARTIN CRESPI

Long non-coding RNAs

Centre National de la Recherche Scientifique (CNRS),

Gif-sur-Yvette, France

Session 4.

ARTUR JARMOLOWSKI

ZOFIA SZWEYKOWSKA-KULINSKA

Biogenesis and function of small RNAs

Adam Mickiewicz University in Poznan, Poznan, Poland

Adam Mickiewicz University in Poznan, Poznan, Poland

Local Organizers

TOMASZ BIELECKI

IWONA KANONIK-JEDRZEJAK

ANDRZEJ PACAK

MARCIN PIECZYNSKI

HALINA PIETRYKOWSKA

ALEKSANDRA SWIDA-BARTECZKA

Adam Mickiewicz University in Poznan, Poland

Adam Mickiewicz University in Poznan, Poland

Adam Mickiewicz University in Poznan, Poland

Adam Mickiewicz University in Poznan, Poland

Adam Mickiewicz University in Poznan, Poland

Adam Mickiewicz University in Poznan, Poland

Post-transcriptional Gene Expression Regulation in Plants

Poznań, June 30th – July 2nd 2014

Contents

Session 1. Regulation of pre-mRNA processing

Chair: MARCELO YANOVSKY, DOROTHEE STEIGER

Session 2. RNA turnover and surveillance

Chair: JOANNA KUFEL

Session 3. Long non-coding RNAs

Chair: MARTIN CRESPI

Session 4. Biogenesis and function of small RNAs

Chair: ANDRZEJ WIERZBICKI

Poster session

Contributions are printed as delivered by authors without substantial modifications

Editors of abstract section:

HALINA PIETRYKOWSKA, MARCIN PIECZYNSKI, ANDRZEJ PACAK, ALEKSANDRA SWIDA-BARTECZKA