

10th anniversary of the UNESCO/Polish Academy of Sciences Cellular and Molecular Biology Network

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The UNESCO/Polish Academy of Sciences Cellular and Molecular Biology Network, the Polish Division of the UNESCO Global Network for Molecular and Cell Biology, commemorates the 10th anniversary of its launch that took place in February 1992. There were several circumstances, both historical and political, that enabled the formation of the Network. In 1991 three institutes of the Polish Academy of Sciences (PAS) became members of the UNESCO Global Network for Molecular and Cell Biology (MCBN) – the Institute of Bioorganic Chemistry in Poznań, the Institute for Biocybernetics and Biomedical Engineering in Warsaw, and the Nencki Institute of Experimental Biology in Warsaw.

The directors of the Nencki Institute, Prof. Maciej J. Nałęcz, and the Institute of Bioorganic Chemistry, Prof. Andrzej B. Legocki, came out with the idea of creation of the Polish division of the UNESCO Network. After several informal talks with the Polish biological community, formal negotiations with the Presidents of the Polish Academy of Sciences, the State Committee for Scientific Research and UNESCO, the idea started to materialize. Almost one hundred Polish research centers and research groups that dealt with problems related to molecular and cell biology expressed their interest in the formation of the Polish Network. The launching meeting was scheduled for February 28/29th 1992 along with the first Polish Conference on Molecular and Cell Biology.

It has been decided that the topics for the Network activities would cover practically areas related to cell and molecular biology – from a single

molecule to human health. The major goals of the Network activities were set as follows:

1. Achievement of better integration among scientific centres in Poland;
2. Establishment of science–industry links in the field of cell and molecular biology;
3. Search for new technologies and methods in medicine and agriculture;
4. Establishment of advanced training in these fields in Poland;
5. Popularization of scientific achievements for educational, cultural and social purposes;
6. Establishment of a Centre of Excellence for Research and Training in Cell and Molecular Biology, the goal that has later resulted in formation of the International Institute of Molecular and Cell Biology in Warsaw.

It was decided that the Network would be governed by two co-directors and the scientific committee, elected at the launching meeting. The first and still in office directors have been Prof. Maciej Nałęcz from the Nencki Institute and Prof. Andrzej Legocki from the Institute of Bioorganic Chemistry, acting in alternate one-year terms. Currently the Committee is formed by Prof. Andrzej Grębecki (the Nencki Institute, Warsaw), Prof. Andrzej Jerzmanowski (Warsaw University), Prof. Leszek Kaczmarek (the Nencki Institute), Prof. Jerzy Kawiak (Medical Centre of Postgraduate Research, Warsaw), Prof. Andrzej Paszewski (the Institute of Biochemistry and Biophysics, Warsaw), Prof. Tomasz Twardowski (the Institute of Bioorganic Chemistry, Poznań), Prof. Jerzy Vetulani (the Institute of Pharmacology,

Cracow), Prof. Maciej Żylicz (the International Institute of Molecular and Cell Biology, Warsaw), and Dr. Jolanta Rędownicz, secretary (the Nencki Institute). Directors and the members of the Committee are nominated by the President of the Polish Academy of Sciences with the acceptance from UNESCO for four-year terms. The secretary office is situated at the Nencki Institute.

It was also decided that the Network major activities would be:

1. Sponsoring organization of meetings and workshops in Poland in the fields related to the Network topics, organized with the participation of outstanding scientists both from Poland and abroad.

2. Formation of the Stipend Fund to enable young researchers to conduct research both in Polish and foreign laboratories as well as to participate in foreign meetings and courses.

3. Sponsoring Polish biological journals to promote the exchange of scientific information (*Postępy Biologii Komórki*, *Kosmos*, *Biotechnologia*, *Wszelchświat*, *Acta Biochimica Polonica*) and, recently, the Festival of Science. Sponsoring journals and the Festival aims at the promotion of major network topics not only to scientists but also to everybody who is interested in the biological sciences.

The Network activities are officially sponsored by the Polish Academy of Sciences, the State Committee for Scientific Research and UNESCO Global Network for Molecular and Cell Biology.

The most active members, it means those who have an initiative in the organization of conferences, apply for the fellowships and offer help and advice to the directors and the scientific committee, are:

- from Warsaw – the Nencki Institute, the International Institute of Molecular and Cell Biology, the Institute of Biochemistry and Biophysics, the Medical Centre of Postgraduate Research, the Faculty of Biology of Warsaw University, the Institute of Biocybernetics and Biomedical Engineering, the Centre-Institute of Experimental Medicine, the Biotechnology Department of the Agricultural University and the Medical Academy;
- from Cracow – the Institute of Pharmacology, Faculty of Biology of Jagiellonian University and Collegium Medicum of Jagiellonian University;
- from Poznań – the Institute of Bioorganic Chemistry, the Department of Human Genetics,

and the Biology Faculty of the Adam Mickiewicz University;

- from Gdańsk – the Intercollegiate Faculty of Biotechnology;

- from Wrocław – the Faculty of Biology of Wrocław University, the Institute of Immunology and Experimental Therapy, and the Agricultural University;

- from Łódź – the Faculty of Biology of the University of Łódź, the Department of Biogenic Amines, and the Medical Academy;

- from Toruń – the Biology Faculty of the Nicolaus Copernicus University;

- from Szczecin – the Pommeranian Medical Academy.

Since 1992 the Network has sponsored organization of over 100 conferences, workshops and courses. For example, last year the Network sponsored the following events:

1. VIII Summer School of Biotechnology
2. International School and Practical Course on Computational Biology
3. International FENS/IBRO Summer School
4. X Symposium of the UNESCO/PAN Polish Cellular and Molecular Biology Network
5. Session “Purines and pyrimidines in signal transduction” – within XXXVII Annual Meeting of the Polish Biochemical Society
6. Workshop “Modern methods in neuroscience” – within V Congress of the Polish Society on Brain Research
7. Conference “Biophysics and biology of environmentally important membrane-active compounds”
8. XXVIII Scientific Seminar of the Institute of Cell and Molecular Biology of Jagiellonian University “The newest techniques in molecular biology and biotechnology”
9. Meijbaum-Katzenellenbogen Molecular Biology Seminar: “Structure and functions of cell membrane cytoskeleton”
10. Postgraduate School of Molecular Medicine: course. “Molecular hematology in clinical practice. From mutated molecules to the patient”
11. Session “Perspectives in molecular pharmacology: gene therapy” – within XVI Meeting of the Polish Pharmacological Society
12. II International Conference: “Protein kinase inhibitors”.

Also, over 200 young researchers received the Network fellowships that enabled them to partici-

pate in international meetings, courses and workshops as well as to conduct research in foreign and Polish laboratories. The recipients have been selected by the Scientific Committee in an open competition. The regulations of the competition are posted every spring at the Nencki website at www.nencki.gov.pl. Short-term visits (from one to six months) have been usually sponsored. In 1994 the Network sponsored also the visits to Polish research institutions of 14 foreign experts from several European countries.

The Network has boosted the possibilities for the international cooperation, often transformed into long-term collaboration. For example, in 1994 Dr. Ewa Sikora from the Nencki Institute, working on molecular aspects of apoptosis and one of the first Network fellowship recipients, started collaboration with Prof. Carlo Franceschi from Italy. The collaboration still continues and has resulted so far in publication of six original papers. Since 1994, besides Dr. Sikora, two of her Ph.D. students have conducted their research in Italy with the support from the Network.

Another example of Network activities is its involvement in the activity of the European Molecular Biology Organization (EMBO). It has been agreed that if there is any Polish recipient of the prestigious EMBO Young Researcher Award, the Network will finance the award (15 000 euro). In 2001 for the first time a researcher from Poland received the EMBO Award. It was Dr. Igor Konieczny from the Gdańsk Intercollegiate Faculty of Biotechnology for his studies on "Broad-host-range plasmid DNA replication".

One of the pivotal Network goals was the creation of the research centre of excellence, the place where outstanding scientists from all over the world would be able to conduct their research thus training Polish and foreign young researchers. Such an idea materialized in January 1999 as the International Institute of Molecular and Cell Biology. In May 1995 the international agreement was signed by the Director-General of UNESCO and Chairman of the Polish State Committee for Scientific Research to organize the Institute by the Polish Academy of Sciences. In June 1997 a Parliamentary bill created the legal basis for the functioning of the Institute and in 1999 the new Institute started its activity. The first director was Prof. Angelo Azzi from Switzerland with two deputy directors, Prof. Jacek Kuźnicki and Prof. Michał Witt, both from Poland.

Now the Institute is directed by Prof. Kuźnicki who has been recently elected by the 15-person advisory board headed by Profs. Maciej J. Nałęcz, Nathan Nelson and Ryszard Przewłocki. The members of the board are outstanding scientists from France, Germany, Great Britain, Israel, Japan, the Netherlands, Russia, Switzerland, the Ukraine, and Poland. Currently over 40 scientists are working at the International Institute forming six research groups. The group leaders were chosen in an open competition advertised in major scientific journals such as *Nature*, *Science* and *EMBO Journal*. The leaders are appointed for 5-year contracts. The research groups are:

1. Department of Molecular Biology, headed by Prof. Maciej Żylicz. The group deals with interactions between p53 protein and cytosolic chaperones, Hsp 40 homologues, and Hsp 70 as a vehicle for protein therapy.

2. Laboratory of Molecular Immunology, headed by Dr. Jarosław Dastyk. The lab studies the molecular mechanisms of immunocytotoxicity.

3. Laboratory of Bioinformatics, headed by Dr. Leszek Rychlewski. The group works on the computer modelling of macromolecules.

4. Laboratory of Molecular Neurology, headed by Dr. Michał Hetman. The lab works on the identification of the molecular mechanisms that control neuronal apoptosis.

5. Laboratory of Structural Biology, headed by Dr. Matthias Bochtler. The group concentrates on the structural analysis of the ubiquitin proteasome system. The laboratory has been established in co-operation with and is financed by the Max-Planck Society.

6. Laboratory of Neurodegeneration, headed by Prof. J. Kuźnicki. The lab studies the factors governing healthy ageing and mechanisms of Alzheimer disease.

We do believe that the UNESCO/PAS Molecular and Cell Biology Network has within the last 10 years intensely contributed to the improvement of the quality of Polish biological sciences and established Polish biological scientific community as an important partner of the global science. Also, the Network certainly has participated in the promotion of scientific achievements among those who are interested in problems related to biological sciences.