

IIMCB building is located next to the PAN Institute of Biocybernetics and Biomedical Engineering at the "Ochota Campus" in Warsaw – an area packed with university faculties and PAN Institutes involved in biomedical research



Reversing the Brain Drain

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Our Institute is one of the few sites in Europe where an "American dream" can be achieved in research. The idea was to create an institute open to international scientific competition

A constant problem faced by Poland and other European countries is the loss of many talented scientists who do not return home after successful postdoctoral training in North America. They choose to stay on the other side of Atlantic to continue their career in research. Our response was to create an institute modeled along the lines of the US National Institutes of Health and other American research institutes. The idea itself emerged in the late 80s, and was long

discussed among prominent Polish researchers. In 1995, the Polish government signed an agreement with UNESCO to found the new institute. Following a difficult process of securing funds for its research operations, the International Institute of Molecular and Cell Biology in Warsaw started independent research activities on 1 January 1999. The Institute's principles of organization are distinct and differ from other research institutes in Poland. The Institute is neither a Polish Academy of Sciences (PAN) institute, nor a university unit. It is, however, connected to PAN by several links.

Open competition principle

The Institute's lab leaders are selected via open competitions, with no national or gender limits. Only a Ph.D. degree (no habilitation) and high quality research in molecular biomedicine are required to be considered an eligible candidate. Our advertisement in *Nature* announcing the 2003 competition for a lab leader position met with

great interest among applicants from all over the world, including some from the US. The majority of Polish scientists applied from abroad. This shows that the brain drain can be reversed, if the research conditions in Europe are similar to those in America.

The Institute's new lab leaders receive a 5-year professorship contract, two fellowships for Ph.D. students, start-up funds to purchase basic equipment and disposables, furnished lab and office space in a modern building, access to all pieces of the Institute's equipment, and full administrative support. Three years after research work is initiated, its progress is to be assessed by a commission consisting of external reviewers and a member of the International Advisory Board. On the basis of this commission's recommendation, the professor's contract may either be terminated or prolonged. If the evaluation comes back negative, a team has still two years to complete all its projects, submit publications and finalize its work.

In order to support their research for five years or more and to extend their research groups, the Institute's lab leaders also have to be successful in attracting extramural funding. The Institute's 5 years of history show that all the groups have easily generated extra funds, and that the Institute's baseline philosophy works extremely well.

Research & science promotion

There are presently 50 people doing research at the Institute, including 26 Ph.D. students and 9 M.Sc. students. The scope of research being carried out is mainly focused on basic biomedical problems. Work is currently being performed by 6 groups, which focus on the following topics (among others): structures of enzymes involved in protein degradation; bacterial virulence factors; immune response modulation by immunotoxic agents; developing "fluorescent cell chip" technology for immunotoxicity testing; designing compounds that can serve as new drugs or molecular chaperones; searching for a functional bio-

-marker of familial Alzheimer disease (FAD); studies of environmental and genetic aspects of longevity; and designing proteins with new properties.

The results obtained by Institute's researchers have been published in such prestigious journals as *J Biologi-*

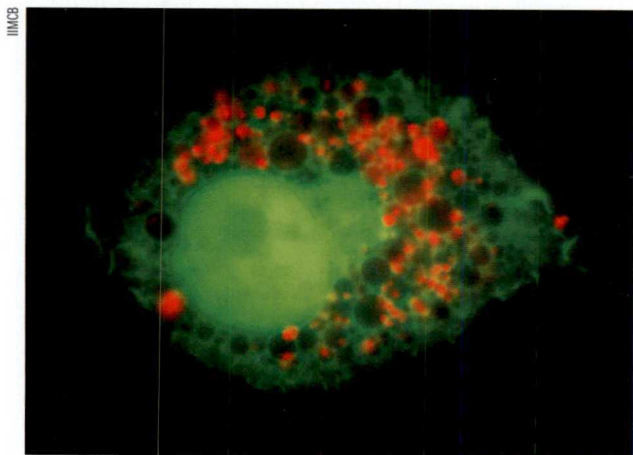


Young and energetic lab leaders are the driving force of the Institute

cal Chemistry (14), *EMBO J* (4), *FEBS Lett.* (4), *Nature* (1), *FASEB J*, *TIBS*, *Blood*, *Gene*, *PNAS*, *Nucleic Acid Research*, *Biochemistry*, and *J Molecular Biology*.

The Institute is one of the founders of the Postgraduate School of Molecular Medicine (www.smm.edu.pl) and actively participates in educating young researchers through various Ph.D. programs, workshops and courses. The School of Science Festival (www.sfn.edu.pl) held at the Institute, founded together with two other PAN institutes, is one of the initiatives to promote public awareness of molecular biology in the wide sense, through hands-on activities and lectures aimed at high school students and teachers.

The idea of the Institute - where people have to work hard, constantly search for support of their research, and prove their quality based on non-tenure employment - is working fine. We are aware, however, that we have only made it halfway toward finishing the job: building a stable and internationally recognized center of high quality research in molecular and cell medical biology. We are now awaiting the first students whose Ph.D. degrees will be based on the work at the International Institute, who should graduate for the first time in 2004. We have already proved that young group leaders quickly mature as independent scientists at the Institute, and once they leave the Institute their careers take off to soar higher than ever before. We are still searching for brilliant group leaders to join us. And last, but not least: we believe that the Institute is a great place for all those devoted to science, but that it is especially a unique place for those who want to start their independent career with no fear of the inevitable risk. ■



Research on molecular biology can sometimes produce such artistic impressions