

*Gennady Zaikov***PROF. DR. RYSZARD MICHAL KOZLOWSKI.  
HALF A CENTURY IN SCIENCE AND TECHNOLOGY**

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Prof. Ryszard Michal Kozlowski retired in 2009 from the position of director of the Institute of Natural Fibres and Medicinal Plants (Poznan, Poland). It is now high time to make a short review of his activity in pure and applied science as well as in organization of science and technology.

Ryszard (Richard) Kozlowski was born on July 28, 1938 in Uniejow, Poland. He graduated from Adam Mickiewicz University in Poznan in 1961, receiving the degree of Master of Applied Chemistry. In 1970 he received Ph.D. degree in chemical technology at the same University. After his graduation he worked for the Institute of Bast Fibers, later renamed to the Institute of Natural Fibers. In 1973 he completed postgraduate studies in the field of research organization. Three years later, he became the deputy director of the Institute of Natural Fibers, and at the same time he was the head of the Department of Lignocellulosic Boards and By-Products. In 1979 he went through a special training in the field of manufacture and upgrading of particle boards and preservation of wood at Technical Research Center of Finland. On August 1, 1987 he became General Director of the Institute of Natural Fibers in Poznan and performed this duty until December 31, 2008. In 1990 the President of the Republic of Poland appointed him a Professor in Technical Sciences.

Professor Richard Kozlowski carried out innovatory research in the field of lignocellulosic fibrous raw materials, wool and silk, processing of bast fibers, environmental protection, utilization of by-products and waste materials from textile industry and the manufacture of agro- fine chemicals. He was also involved in research on the application of natural polymers and composites in industry, including modern composites reinforced with natural fibers. Other areas of his research work were reclamation of soils polluted with heavy metals and the application of such soils in cultivation of raw materials for textile industry. The above studies were financially supported by the European Framework Projects V, VI and VII, as well as by Polish Ministry of Science and Ministry of National Economy and by international companies such as Airbus, Lenzig, and others.

In 1989 professor Kozlowski was appointed to a post of coordinator of the Flax Research Group, operating under the auspices of Food and Agriculture Organization (FAO) of the United Nations in Rome. In 1993 the Institute of Natural Fibers headed by Professor Kozlowski became the Coordination Center of FAO's European Cooperative Research Network on Flax and other Bast Fibers. Activities of Professor Kozlowski in the field of projects carried out under the auspices of FAO, which lasted for over 20 years, significantly contributed to the intensification of the exchange of scientific ideas and technology transfer in the field of natural fibers between research centers in Europe and in the whole world. Since 2008 Professor Kozlowski has been a coordinator of Focal Point ESCORENA, which works for the good of many important areas of European agriculture.

Professor Kozlowski represents the Institute of Natural Fibers and Polish science in a number of scientific and professional organizations in the world. He delivered invited lectures in Australia, Brazil, China, Romania, Russia, Ecuador, Columbia, Republic of South Africa and other countries. As an international consultant for cellulosic and protein fibers he is an author of analyses, forecasts and economic plans. Professor Kozlowski in an author of the treatise "Hemp – an alternative plant", which was prepared for the European Office of FAO in Rome. He is a consultant of UNIDO in Vienna and an expert of the Polish Ministry of Culture and Arts on safety of public collections – the protection of materials from fire. Professor Richard Kozlowski is an author and co-author of 300 original research papers, 7 books, 25 patents and 24 production technologies that were implemented in industry. He is the author of production technologies for fiber degumming with the use of osmosis, enzymes and ultrasounds, production technologies for waterproof and fireproof composites. New generations of fire retardant, fungi-resistant and insect resistant agents for the protection of lignocellulosic materials were developed by Professor Kozlowski and implemented in industry. These technologies (including intumescent coatings of *Expander* type) make up over 90 % of modern protection agents manufactured in Poland.

Professor Kozlowski also carried out pioneering research in the field of therapeutic and dietetic properties of flax-seed and the application of biotechnology in cultivation of fibrous plants and biosynthesis of cellulose.

Results of Professor Kozlowski's studies are of importance in developing countries, particularly concerning reactivation and intensification of production and processing of natural fibrous raw materials, which are very important for the development of rural areas.

For his outstanding research achievements, Richard Kozlowski received the title of *Professor Honoris Causa* (Honorary Professor) of the Pontifical Catholic University in Ibarra, Ecuador. He received many Polish honors and distinctions, among them – the order "*Polonia Restituta*" (he is the knight of the order "*Polonia Restituta*"), Golden Cross of Merit, awards of Ministry of Science, Higher Education and Technology. Moreover he was "Man of the Year" in 1992/93 and 1995/96 and his biography was included in "International Who's Who of Intellectuals" "Dictionary of International Biography", "Five Thousand Personalities of the World".

Professor Kozlowski is an honorary member of the Textile Institute in Manchester, charter-member and vice-

president of the Polish Section of the Textile Institute, member of Polish National Committee of ICOMOS (International Council of Monuments and Sites) and a number of other organizations.

Professor Richard Kozlowski is an editor-in-chief of "Journal of Natural Fibers" (published by Taylor & Francis, USA), EUROFLAX Newsletter (Information bulletin of the FAO European Cooperative Research Network on Flax and other Bast Fibers). He is also a member of editorial boards of such journals as "Colourage", "Polymer Research Journal" (Nova Science Publishers, USA), "Vlasberichten", "Bioresources Technology Journal", "Fibres & Textiles in Eastern Europe".

Professor Kozlowski has significantly contributed to a new approach to natural fibers and polymers and to the decision of the United Nations and FAO that the year of 2009 was proclaimed the "International Year of Natural Fibers".

Today Ryszard Michal is in full energy, force and ideas in the field of pure and applied chemistry. No doubt, we will see his new successes in chemistry, biology and medicine.