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GENERAL PROBLEMS OF THE FIBRE AND TEXTILE INDUSTRIES

RESEARCH AND DEVELOPMENT

ŁUKASIEWICZ RESEARCH NETWORK – INSTITUTE OF BIOPOLYMERS AND CHEMICAL FIBRES

Director of the Institute: *Radosław Dziuba, Ph.D.*

The Institute of Biopolymers and Chemical Fibres *was consolidated with the Pulp and Paper Research Institute in 2007.*

The research subject *of IBWCH is conducting scientific and development research, as well as implementing their results into praxis in the following fields:*

- *processing, modifying, and application of biopolymers,*
- *techniques and technologies of manufacturing, processing, and application of chemical fibres and other polymer materials and related products,*
- *techniques and technologies connected with manufacturing, processing and application of products of the pulp and paper industry and related branches*

R&D activity *includes the following positions, among others:*

- *biopolymers – modifying and processing,*
- *functional, thermoplastic polymers,*
- *biodegradable polymers and products from recovered wastes,*
- *industrial biotechnology, e.g. bioprocesses for modifying and processing polymers and fibres, and biosyntheses of nanobiomaterial polymers,*
- *biomaterials for medicine, agriculture, and technique,*
- *nano-technologies, e.g. nano-fibres, polymer nano-coatings, nano-additives for fibres.*
- *processing of polymer materials into fibres, films, micro-, and nano- fibrous forms, and nonwovens,*
- *paper techniques, new raw material sources for manufacturing paper pulps,*
- *environmental protection,*

The Institute is active *in implementing its works in the textile industry, medicine, agriculture, plastic processing, filter and packing materials manufacturing, as well as in the cellulose and paper industries.*

The Institute has *the following five laboratories, which have accreditation certificates PCA:*

- *Laboratory of Microbiology*
- *Laboratory of Biodegradation*
- *Laboratory of Environment Protection*
- *Laboratory of Metrology*
- *Laboratory of Paper Quality*

The Institute's offer of specific services *is wide and differentiated, and includes:*

- *physical, chemical and biochemical investigations of biopolymers and synthetic polymers,*
- *physical, including mechanical investigation of fibres, threads, textiles, and medical products,*
- *tests of antibacterial and antifungal activity of fibres and textiles,*
- *investigation in biodegradation,*
- *investigation of morphological structures by SEM and ESEM*
- *investigation and quality estimation of fibrous pulps, card boards, and paper products, including paper dedicated to contact with food, UE 94/62/EC tests, among others.*
- *Certification of paper products.*

The Institute is member *of domestic and international scientific organisations, the following, among others: EPNOE Association-European Polysaccharide Network of Excellence, Polish Chitin Society, Centre of Advanced Technology of Human-Friendly Textiles 'PROHUMANOTEX', Polish Platform of Textile Technology, Polish Platform of the Forest-Wood Technology Sector, International Scientific Network 'Environment versus Technology' ENVITECH-NET.*

The Institute participates *in the following strategic research projects: KEY PROJECT: 'Biodegradable fibrous goods', BIOGRATEX – PO IG 01.03.01-00-007/08; FORESIGHT PROJECT: 'Modern technologies for textile industry. A Chance for Poland' – UDA – PO IG 01.01.01-00-005/09-00 (as a leader); STRATEGIC PROJECT: 'Technology for the preparing of biodegradable polyesters using renewable raw materials', BIOPOL – PO IG 01.01.02-10-025/09; STRATEGIC PROJECT: 'Application of biomass for production of environmentally friendly polymeric materials', BIOMASS – PO IG 01.01.02-10-123/09.*

The Institute organises *educational courses and workshops in fields related to its activity.*

The Institute is active *in international cooperation with a number of corporation, associations, universities, research & development institutes, and companies from Austria, Germany, Finland, France, Sweden and the United States among others.*

The Institute is a publisher *of the scientific journal 'FIBRES & TEXTILES in Eastern Europe'; the journal is since 1999 on the 'Philadelphia List' of the Institute for Scientific Information.*

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