



INSTITUTE OF BIOPOLYMERS AND CHEMICAL FIBRES INSTYTUT BIOPOLIMERÓW I WŁÓKIEN CHEMICZNYCH



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', BI-OGRATEX – 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 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.

Instytut Biopolimerów i Włókien Chemicznych (IBWCh)

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