



# INSTITUTE OF BIOPOLYMERS AND CHEMICAL FIBRES INSTYTUT BIOPOLIMERÓW I WŁÓKIEN CHEMICZNYCH



**Director of the Institute:** Danuta Ciechańska Ph.D., Eng.

**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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