

# Faculty of Material Technologies and Textile Design of Technical University of Lodz

## The Faculty consists of 1 Institute and 7 Departments:

- *Institute of Architecture of Textiles*
- *Department of Man-Made Fibres*
- *Department of Physical Chemistry of Polymers*
- *Department of Knitting Technology*
- *Department of Material and Commodity Sciences and Textile Metrology*
- *Department of Technical Mechanics and Computer Engineering*
- *Department of Textile Machine Mechanics*
- *Department of Clothing Technology and Textronics*



## Study programmes offered by the Faculty:

- Pattern Designing
- Textile Engineering
- Education of Technology and Information Engineering
- Material Engineering
- Health and Safety at Work
- Science of Commodities
- Logistics, specialisation- Innovative Material Technologies

## The Faculty participates in several structural and international projects:

Structural projects financed within the Innovative Economy Programme:

- Textronic system for muscle electrostimulation – designing and testing a textronic system for muscle electrostimulation
- Using biomass for manufacturing environmentally friendly polymer materials – innovating numerous technologies for manufacturing fibrous and composite materials
- Development of the research infrastructure of modern techniques and technologies of the textile-clothing industry – development of the scientific infrastructure of the Faculty of Material Technologies and Textile Design of the Technical University of Lodz
- Biodegradable fibrous products – creating technology for producing textile materials from biodegradable polymers
- Foresight - 'Modern technologies for textile engineering. A chance for Poland.' – identification of trends in scientific research

International projects realised within the 6<sup>th</sup> and 7<sup>th</sup> Framework Programmes of the European Union

- MODSIMTex - Development of a rapid configuration system for textile production machinery based on physical behaviour simulation of precision textile structures
- ProeTEX - Protective and monitoring textiles for the human body
- DIGITEX - Digitally programmed jetting of fluids for multifunctional protective textiles
- LIDWINE - Multifunctionalised medical textiles for wound prevention and improved wound healing

## The Faculty of Material Technologies and Textile Design focuses on the following research topics:

- nanotechnologies in textile engineering, composite nano-fibers and fibers of special properties
- technologies of textiles formed from threads
- biomaterials
- technology of water and liquid industrial waste
- physical and bio-physical properties of clothing and clothing design
- textronics
- machine mechanics and vibration, industrial safety of textile machines and devices
- modelling of thermomechanical processes and constructions
- sensitivity analysis, identification and optimisation of mechanical and textile constructions mechanically and thermally loaded
- new techniques and technologies of knitted fabrics used for clothing and technical products, composite preforms, and biomaterials and science of commodities in the field of knitted products
- pattern designing and computer designing of knitted fabrics and products
- designing processes for classic, highly elastic, medical, sports and other knitted products

## Dean of the Faculty

Ryszard Korycki Ph.D., D.Sc, Eng prof. of TUL

### More information:

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