POLISH NATIONAL AGENCY FOR ACADEMIC EXCHANGE

STER PROGRAMME

name of the unit:		symbol:
INSTITUTE OF POLYMER AND DYE TECHNOLOGY Lodz University of Technology		I-33 http://www.pb.p.lodz.pl
head of the unit:	potential promoters:	contact person:
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scope of activities:

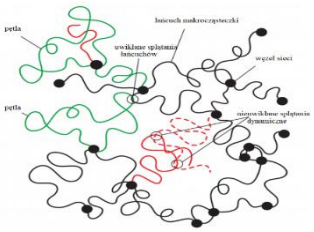
The main areas of interest and research directions are the production and analysis of new, unconventional elastomeric compositions, in which intra- or interelastomer reactions have been forced. Controlled conduct of reactions taking place in elastomeric compounds enables obtaining products with interesting properties, reducing the toxicity of typical cross-linking agents by using alternative substances, reducing the production costs of elastomeric materials (by diluting expensive elastomer cheaper, or using used rubber goods, or using natural substances). The fulfillment of the above assumptions is possible through unconventional methods of cross-linking of elastomers or elastomer-elastomer blends, which allow to eliminate the disadvantages of the classic method of cross-linking of elastomers.

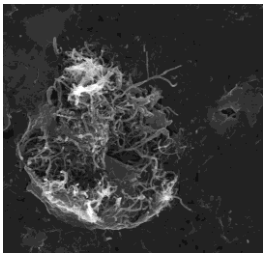
present activities:

The main areas of interest and directions of the research currently carried out are the following issues:

- production of new elastomeric compounds cross-linked with new cross-linking agents,
- characteristics of cross-linking processes and analysis of selected properties of the manufactured materials,
- analysis of thermal properties and measurement of the flammability of new elastomeric materials,
- characteristics of the mechanical and dynamic properties of new elastomeric materials,
- surface characteristics of superhydrophobic elastomeric materials.

graphic material





Future activities:

1. Modifications of selected elastomers with natural substances leading to rubber products with aromatic qualities.
2. Functionalized elastomer compositions containing coupling agents.
3. Modifications of selected rubbers through the use of new cross-linking agents.
4. Development of new rubber materials with bactericidal properties.

Keywords:

elastomer, cross-linking, rubber, fire resistance, interelastomer reactions, hydrophobicity

List of internship proposal in this research team:

1. Modification of natural substances and their use as fillers of selected elastomers.
2. Cross-linking of special elastomers with metal nanoxides.

List of attachments: