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Faculty of Forestry
Cathedra for Chemical and Mechanical Wood Processing

Scientific field (Frascati Manual)

Mechanical engineering

Chemical engineering (plants, products)

Composites (including laminates, reinforced plastics, cermets, combined natural and synthetic fibre fabrics, filled composites)

Paper and wood

Bioproducts (products that are manufactured using biological material as feedstock) biomaterials, bioplastics, biofuels, bioderived bulk and fine chemicals, bio-derived novel materials

Nano-materials [production and properties]

Forestry

Brief description of expertise

Design, improvement and characterization of wood based materials, such as: particleboard, fiber-boards, oriented strand board (OSB), wood based mineral panels (cement bonded particleboard, wood wool cement panels, wood based gypsum boards etc), as well as other ligno-cellulose materials (i.e. strawboard). Testing and certification of wood based panels. Development of new materials based on wood particles as fillers and thermoplastic polymers as matrix. Development of pre-treatments and processes in chemical wood processing. Cellulose and paper. Production of wood bio-ethanol. Analysis of chemical composition of wood and chemical modification of wood tissue. Accessory materials in wood processing and their application. Investigation of wood adhesives and methods for adhesion improvement on wood substrates. Development of wood based products with improved fire- and water-resistant properties. Air- and hydro-pollution control in wood processing. Production and characterization of wood nano-cellulose particles.

Keywords

wood based composites, characterization of wood based composite materials, wood chemistry, wood chemical processing, wood adhesives, wood bio-ethanol, wood nano-cellulose

Commercial services

Testing and certification of wood based panels (particleboard, fiberboard, OSB etc)
Chemical composition analysis and modification of wood
Development of new wood based composites based on polypropylene as matrix and wood particles as reinforcement and active component
Investigation on possibilities for decreasing of the formaldehyde emission from the wood based panels
Production of furfurol from wood residues
Manufacture of new water-resistant particleboard of E1 class for construction applications
Modification and improvement of wood adhesives

Development of the wood products with improved fire-resistance

Investigation of possibilities on wood residues application for bio-ethanol production

Realized and current projects

A) NATIONAL PROJECTS

Title	Project ID	Funding source	Duration
Establishment of Wood Plantations Intended for Afforestation of Serbia	TR 031041	Ministry of Education and Science of the Republic of Serbia	2011-2015
Development of New Products with the Aim of Better Utilization of Wood Raw Material and Improvement of Wood Products Export	BTN - 361005A	Ministry of Science and Technology of the Republic of Serbia	2005-2007
Wood Biomass ad a Resource of Sustainable Development of Serbia	TP 20070	Ministry of Science and Technology of the Republic of Serbia	2008-2011

Industry group (according to "Gazette RS", No. 54/10)

Manufacture of products of wood, cork, straw and plaiting materials

Manufacture of pulp, paper and paperboard

Higher education

Other education

Educational support activities

Accredited laboratories

Title	Contact person
Certification Body of Faculty of Forestry	Ivana Gavrilovic-Grmusa
Laboratory for particleboard testing	Milanka Djiporovic-Momcilovic

Staff list within the unit

Name	Last name	Teaching/scientific title
Milanka	Djiporovic-Momcilovic	Full Professor
Ivana	Gavrilovic-Grmusa	Assitant Professor
Mladjan	Popovic	Assitant Professor
Milica	Rancic	Assitant Professor

Name	Last name	Teaching/scientific title
Jasmina	Popovic	Teaching Assitant
Ivana	Stojiljkovic	Teaching Assitant