

TECHNOLOGIES FOR INVESTIGATION OF BIOMATERIALS

Liga Berzina-Cimdina

Riga Biomaterials Innovation and Development Center,
Riga Technical University, Riga, Latvia

The main fields of research and development of biomaterials in Riga Biomaterials Innovation and Development Center Riga Technical University is synthesis of biomaterials, in vitro and in vivo studies, production of implant prototypes for medical application. The main materials: composites ceramics from hydroxyapatite and tricalcium phosphate, titanium oxide ceramic and glass ceramics materials on the basis of system niobium containing calcium phosphate glass, calcium phosphate bone cements and bone cements on the basis of polyacrilate, nanostructured materials on the basis of wood precursors.

Equipment in RBIDC- synthesis reactor with controlling temperature, pH, mixing speed for suspensions; mini spray dryer system; cold uniaxial and isostatic press; planetary ball mills; tumbler mixer; dispergator; thermostat; extruder and equipment for mass plasticity evaluation; draying oven and muffle furnaces (1250, 1400, 1750°C); X- ray diffractometer; SEM with EDX; DTA; FT-IR; laser particle sizer; heating microscope; light microscope, for transmitted and reflected light; stereomicroscope; sample preparations station for microscope et.c..