We look for new members of out team: MATEQ at J.E. Purkyně University in Ústí nad Labem. Faculty of science

Team MATEQ – materials and technology for environment protection and quality of life .

We are the member of consorcium of large research infrastructure: NanoEnviCz see road map or http://www.nanoenvicz.cz/en

Our research is mainly focused on nanotechnology and nanomaterials for environment protection and biomedical applications, and quality of life, for more information, see:

http://smart-mateq.cz/mateq/

International cooperation

UJEP & Leibniz Institute for Polymer Research Dresden, Dr. Dietmar Appelhans a prof. A. Temme (TU Dresden) – Targeted transport of therapeutical RNA molecules in the glioblastoma cells via dendrimer carriers,
University of Ontario, Inst of Technology, Canada
Universidad de Alcalá, Spain
University for Applied Sciences of Southern Switzerland
Nat. Acad. Sci. Byelarus, Inst Biophys & Cellular Engn, Byelarus
Universitat Autonoma de Barcelona, Catalonia, Spain
UACH, UJEP & University Uppsala, Department of engineering Sciences, Angstrom Laboratory, Sweden; Degradation of toxical substances on the surface of nanostructured materials,
UJEP & Univerzita Lodž, Poland; prof. Barbara Klajnert - Cancer nanomedicine
UJEP &Laboratory of molecular imunology, University hospital of Gregoria Maranon, Madrid, Spain; Dr. Maria Angeles Muňoz Fernandez; Nanoparticles design (dendrimers) towards therapy in HIV and Leishmania infections,
UACH & Bulgarian academy of science, Institute of catalysis; - Nanoparticles of the metallic oxides for catalytic and environmental application
UJEP & BAM Federal Institute for Materials Research and Testing, Berlin, Germany (Dr. Uwe Beck, Dr. Andreas Hertwig), Development of gas sensores on the basis of nanolayers oxides of transition metals,
UJEP &University of Tennessee, Knoxville, USA; - Nonadditive interactions in aqueous solutions of electrolytes, Development of biosensors based on genetically modified organisms,

UACH & Prof. Inmaculada Garcia-Moreno a Instituto de Quimica fisica Rocasolano, Consejo Superior de Investigaciones Cientificas (CSIC), Madrid; Spain New luminophores on the basis of borohydrides,
UACH & Prof. Franck Millange, Institut Lavoisier Versailles, Université de Versailles, France – Organometallic nets,
UJEP& Oak Ridge Natl. Lab., Oak Ridge, TN, USA; -Nonadditive interactions in aqueous solutions of electrolytes

We are coperationg with industry: Nanovia Ltd, Nanomedical Ltd., Skoda Auto, Preciosa, Vacuum Praha…..

Structure and properties of modified polymers for tissue engineering
Studying the interaction of chemically active plasma with surfaces of solids
Dendrimers in biomedical applications
Study of vapor-liquid equilibria of multicomponent mixtures on the molecular level for use in the chemical industry
Nanocrystalline metal oxides, for safe and rapid degradation of the organophosphorus pesticides
Solutions of the polymers in the external field: molecular understanding of electrospinning
The solubility of non-polar liquids in water: molecular studies
Non-additive interaction in the aqueous electrolyte solutions: the role of polarization and cross-interactions
Properties of mesoporous silica and ability to interactions with nucleic acids
Preparation of nano and microstructures on the substrate by interaction with the laser beam
Plasma-chemical modification of the phyllosilicates for functional nanostructures
Study electrodipping: Computer simulations of aqueous solutions of electrolytes in the open statistic set, constrained geometry, and electric field
New carbosilane dendrimers for biomedical applications; interaction with biomolecules and biomembranes
Use of stem cells, adipose tissue obtained by liposuction tissue engineering
Properties of water and sea water in a metastable states. Experiment, molecular simulations and thermodynamic modeling
Detection of circulating tumor cells (CTCs) in patients with adenocarcinoma of the lung using a microfluidic chip

COMNID: Support the transfer of the results of applied research into new technologies and services
Nanomaterials and nanotechnologies for environment protection and sustainable future
Polymer nanofibers for antibacterial filtration media

Study programs related to chemistry: Toxicology, chemistry, nanotechnology,