CAMPUS University Politehnica of Bucharest - Center for Advanced Research on New Materials, Products and Innovative Processes

About us

The Center for Advanced Research on New Materials, Products and Innovative Processes – CAMPUS - is the UPB's flagship advanced research & development center for multi- and inter- disciplinary technologies.

CAMPUS is uniquely designed, both from the infrastructure point of view, as well as functionality. It holds a state-of-the-art 7 stories green and intelligent building with unconventional power sources, energy recovery, reuse of resources, and intelligent management systems. The building itself is a working lab.

CAMPUS integrates 43 research labs, spread over more than 8,000 square meters, equipped at high standards. The labs are connected in a complete inter-disciplinary technological flow, starting with the study of materials (e.g., chemical engineering), going to electrical engineering and electronics (e.g., circuits, antennas), power and mechanics (e.g., alternative energy sources, environmental protection), and then telecommunications, information technologies (e.g., multimedia processing) and computer science (e.g., artificial intelligence).

Curently, CAMPUS hosts more than 100 experienced researchers entrusted with over 50 national and international research & development projects, authors of more than 300 publications in top tier journals and conferences. Apart from research, CAMPUS is also an educational center for undergraduate and postgraduate studies and e-learning.

Selected Labs

Food Safety Lab. Takes care of the IRD activities to study the influence of different processing routes on food/finished products. Among the analyzed factors, it will be considered the influence of natural or accidental variables: temperatures for periods of time required; natural or artificial light; influence of microwaves etc. The development of analytical methods for the determination of analytes of interest (toxic compounds or useful) and the composition and conformity of food, methods that are and will be developed (partly on the duration of the project and any time there is interest or requirement) can be transferred to specialized institutions within the Veterinary Health Directorate, Public Health Departments, specialized laboratories, suppliers and equipment manufacturers interested in these methods or any laboratory interested in these methods. Achieving specific and nonspecific tests for different types of solid, semisolid or liquid food or related volatile compounds (chemical speciation of biologically active compounds that are clearly different (Toxicity) rapid screening of compounds of interest (food additives) identifying safety measures in exploiting operations (in fast-food or restaurant: cooking oil, keeping different varieties of food where they are supposed to, provenance, GMO analysis etc.). The existing infrastructure along with the expertise of the staff can be also exploited in other fields, such as environmental, medicine, energy, nanomaterials, etc.
Website: http://campus.pub.ro/website/food-safety

Nanobiomaterials Lab. The main focus of this laboratory is the synthesis of micro and nanostructured biomaterials obtained from various materials and 3D printed to be used as scaffolds, supports for cell cultures, etc.
Website: http://campus.pub.ro/website/nanobiomaterials

Nanotechnologies Lab. The main focus of this laboratory is the development of nanotechnologies to be used in the others laboratories.
Website: http://campus.pub.ro/website/nanotechnologies

Thin Layers Lab. The main focus of this laboratory is the synthesis of nanostructured thin films using spin coating technique starting from sol-gel precursor solution or any other aqueous/liquid precursor solution. Also, in this lab all solutions needed for spin coating techniques are obtained.
Website: http://campus.pub.ro/website/thin-layers

Fluide Nanostructures and Soft Nanomaterials Lab. Advanced methods for polymers and nanomaterials processing is thought-out and designed as an effective tool to manufacturing biomedical products using the latest equipment. In this laboratory modern and innovative solutions for fabrication of finite biomedical products (such as films, coatings, various components of medical devices, 3D scaffolds for tissue engineering, pharmaceuticals etc.) will be developed, using extrusion of melted materials. Also, the laboratory aims to use highly advanced, complex, and unique techniques (e.g. Bio-printing system, customized electrospinning system) for fabrication of a wide range of biomedical products, from implants, matrixes for tissue regeneration to artificial organs, which can replace or substitute different diseased or affected parts of the body.
Website: http://campus.pub.ro/website/fluide-nanostructures-and-soft-nanomaterials

Polimeric Nanomaterials Lab. Target large scale of research interests which include: biomineralization, self-assembling, adaptive and smart materials, superficial nanostructuration, bioadhesion and specific biointeractions, highly specific biofunctionalizations with great sensitiveness above the existing limits, intelligent systems that allow the controlled release of drugs and to some bioactives for a wide variety of biomedical applications (aiming early diagnosis, personalized treatment, monitoring and prognostic oncology).
Website: http://campus.pub.ro/website/polimeric-nanomaterials

Contact information

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