About APMG

APMG was established in 2004 as part of the Faculty of Applied Chemistry and Materials Science and has grown ever since, comprising now more than 30 members, both junior and experienced researchers with a solid track record. The main research activity was firstly devoted to synthesis and characterization of new nanocomposites based on epoxy resins and modified silicates, but as the research infrastructure was strongly developed, the research themes were enlarged to various nanocomposites with suitable reinforcing agents such as carbon nanoparticles, polyhedral oligomeric silsesquioxane, halloysite, and so on. APMG scientists are often part of interdisciplinary teams, working along with researchers having parallel skills to advance the frontier of knowledge.

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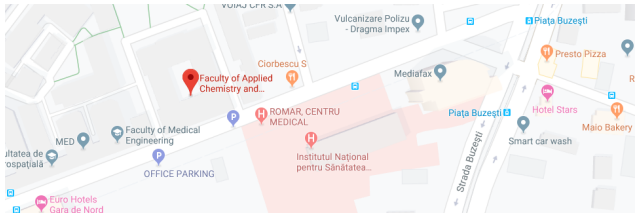

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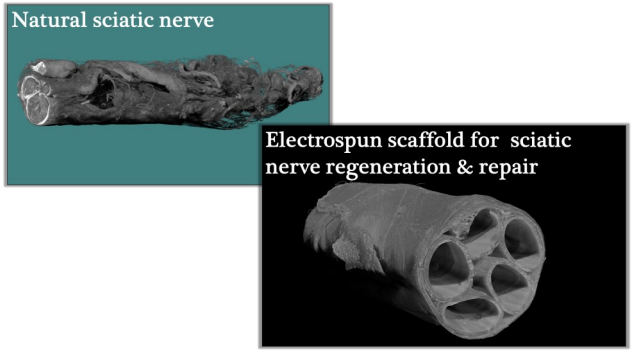
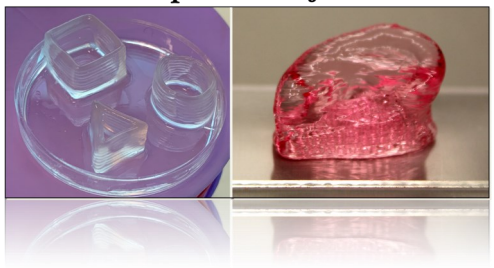
Advanced Polymer Materials Group

"Imagination is the highest form of research"
Albert Einstein



3D printed objects



Head of research group:
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Advanced Polymer Materials Group

"*The cutting edge infrastructure and the high number of meaningful scientific papers speak volumes about the determination for excellency of the APMG members.*
Encouraged to follow their imagination into developing new routes of synthesis for a new generation of improved materials with specific applications, the researchers in APMG work together as a welded team and collaborate with researchers with complementary expertise, to obtain sustainable scientific results.
Having a rich scientific background and excellent equipment at their reach, I am confident that the APMG team will not settle for anything less than revolutionary!"

Prof. Horia Iovu

Research infrastructure

- short selection of equipment -

Synthesis & fabrication:

Plasma system (cleaning & activation)
Computerized electro-spinner
3D Bio-printing system
Laboratory compounder & extruder

Complex characterization:

Confocal & Dispersive RAMAN Microscope
Liquid chromatograph, R-HPLC coupled with circular dichroism spectrometer
Complex system of sampling, filtration, and analysis (UHPLC)
X-Ray Photoelectron Spectroscopy Nano-FTIR
Nanoindentation system
System for Zeta potential, electrophoretic mobility and micro-rheology
Micro– and nano– computed tomography scanners
Contact angle & foaming properties analyzer
Biodynamic testing equipment
Microbalance with quartz crystal and ellipsometer

… and many more. Please, see detailed list @ **https://erris.gov.ro/APMG---UPB** or on our group web site.

Research interests

Synthesis & fabrication of personalized biopolymer-based scaffolds for tissue engineering
Surface engineering & bioactivation
Synthesis & fabrication of (nano) composites materials with biomedical applications
Mechanical, rheological and thermal characterization of polymer-based compositions
Micro-architectural evaluation of materials' internal structure
Synthesis of scaffolds with controllable release of bioactive molecules
Molecular modelling and computational chemistry
Structural characterization of polymer-based materials