



Dr. Diana Felicia Loghin

Research Assistant

Email: dfelicia@icmpp.ro

Tel.

Research topics

My research activity focused on: development of a new, original method for graft copolymers of starch and acrylonitrile synthesized in aqueous solution by free-radical polymerization. Preparation of novel semi-interpenetrating hydrogels by conventional technique, cryogelation and leaching techniques, composed of either starch or anionic polyelectrolyte derived from hydrolysis of grafted starch and preparation of ionic composites based on cross-linked chitosan as matrix and poly(amidoxime) grafted on starch as entrapped chelating resin as beads gives, value materials for various applications, such as: drug delivery systems, sorption of heavy metal ions and dyes from wastewater. I am familiarized with numerous characterization methods specific to my activity such as: (1) structural and morphological characterization of composite materials by FT-IR spectroscopy, differential scanning calorimetry, X-ray diffraction, thermogravimetric analysis, optical microscopy, scanning electron microscopy, swelling and elasticity tests, rheology; (2) sorption capacity evaluation of composite materials for dyes, metal ions and drugs by UV-Vis and modelling of experimental data by applying kinetic and isotherm models.

Scientific research

Author and co-author of 11 ISI articles, 1 articles in international proceeding, 9 posters, 16 presentations at national/international scientific meetings, member in 3 national research projects and 1 postdoctoral research project.

5 important publications

1. **D. F. Apopei**, M. V. Dinu, A. W. Trochimczuk, E. S. Dragan
Sorption Isotherms of Heavy Metal Ions onto Semi-Interpenetrating Polymer Network Cryogels Based on Polyacrylamide and Anionically Modified Potato Starch
Ind. Eng. Chem. Res., 51 (2012)10462–10471.
2. E. S. Dragan, **D. F. Apopei**
Multiresponsive macroporous semi-IPN composite hydrogels based on native or anionically modified potato starch
Carbohydrate Polymers, 92 (2013) 23– 32.
3. E. S. Dragan, **D. F. Apopei Loghin**
Enhanced removal of Methylene Blue from aqueous solutions by semi-IPN composite cryogels with anionically modified potato starch entrapped in PAAm matrix
Chemical Engineering Journal, 234 (2013) 211-222.
4. E. S. Dragan, **D. F. Apopei Loghin**, A.-I. Cocarta
Efficient Sorption of Cu²⁺ by Composite Chelating Sorbents Based on Potato Starch-graft-Polyamidoxime Embedded in Chitosan Beads
ACS Applied Materials & Interfaces, 6 (2014) 16577–16592.
5. **D. F. Apopei Loghin**, G. Biliuta, S. Coseri, E. S. Dragan
Preparation and characterization of oxidized starch/poly(N,N-dimethylaminoethyl methacrylate) semi-IPN cryogels and in vitro controlled release evaluation of indomethacin
International Journal of Biological Macromolecules, 96 (2017) 589–599.