Dr. Marinela Maria Lazăr

Research Assistant

Email: mariperju@icmpp.ro

Tel. (+4)0232 260332, (+4)0232 260333, (+4)0232 260334 int. 116

Research topics

- Ionic composite hydrogels/cryogels based on natural and synthetic polymers: synthesis, characterization and investigation of sorption properties;
- Cationic composite hydrogels with applications in removal of azo dyes from wastewaters;
- Ionic organic/inorganic hybrids containing quaternary ammonium salt groups in the side chain, as sorbents for dye removal.

The structure/properties relationship of the ionic composite hydrogels/cryogels have been studied by Fourier-transform infrared (FTIR) spectroscopy, differential scanning calorimetry (DSC), scanning electron microscopy (SEM) and the swelling capacity.

Scientific research

Author and co-author of 19 scientific papers (16 in ISI-ranked journals, 2 in BDI journals, 1 in open access journal), 5 full papers in scientific volumes, 65 presentations (2 lectures, 40 oral communications and 23 posters) and research team member in 4 national grants/project.

5 important publications

1. M. M. Perju, M. V. Dinu, E. S. Dragan
   Sorption of Methylene Blue onto ionic composite hydrogels based on polyacrylamide and dextran sulfate: kinetics, isotherms, and thermodynamics
   Separation Science and Technology 47 (2012) 1322-1333.
   https://doi.org/10.1080/01496395.2012.672515
2. E. S. Dragan, M. M. Perju, M. V. Dinu
   Preparation and characterization of IPN composite hydrogels based on polyacrylamide and chitosan and their interaction with ionic dyes
   Carbohydrate Polymers 88 (2012) 270-281.
   https://doi.org/10.1016/j.carbpol.2011.12.002
3. E. S. Dragan, M. M. Lazar, M. V. Dinu, F. Doroftei
   Macroporous composite IPN hydrogels based on poly(acrylamide) and chitosan with tuned swelling and sorption of cationic dyes
   Chemical Engineering Journal 204-205 (2012) 198-209.
   https://doi.org/10.1016/j.cej.2012.07.126
4. M. M. Lazar, C. –D. Varganici, M. Cazacu, E. S. Dragan
   Cationic hybrids from poly(N,N-dimethylaminoethyl methacrylate) covalently crosslinked with chloroalkyl silicone derivatives effective in binding anionic dyes
   Journal of Applied Polymer Science 133 (2016) article number: 43942.
   https://doi.org/10.1002/app.43942
5. M. M. Lazar, I. A. Dinu, M. Silion, E. S. Dragan, M. V. Dinu
   Could the porous chitosan-based compositematerials have a chance to a "NEW LIFE" after Cu(II) ion binding?
   International Journal of Biological Macromolecules 131 (2019) 134–146.
   https://doi.org/10.1016/j.ijbiomac.2019.03.055