Dr. Alexandra Vieru

Research Assistant

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Research topics

Alexandra Vieru is a *young researcher* with expertise in supramolecular chemistry. Her interest in self- and co-assembled materials began during her PhD where she studied the ability of natural building blocks such as amino acids and short peptides (modified with Fmoc at N-terminal) to self-associate via a "bottom-up" hierarchical process. During her PhD, she focused on elucidating the mechanisms of molecular self-assembly and co-assembly, as well as the unique biochemical and physicochemical characteristics of amino acid/peptide self-assembled materials by various techniques, including circular dichroism, fluorescence, dynamic light scattering, XRD, polarized optical microscopy, rheology. Moreover, along with the supramolecular systems, she also used a series of natural polymers (gellan gum, agarose) or even obtained and used synthetic polymers (poly(2-(Dimethylamino)ethyl methacrylate).

Profile address: https://www.webofscience.com/wos/author/record/GQB-2637-2022

Scientific research

Articles published in international peer-reviewed journals (ISI ranked and included in international data bases): 12 (out of which 6 articles as main author). Articles/Studies published full-text in international conference volumes: 54 citations: (without self-citation) of the published papers in international ISI-ranked journals, Hirsch index, H= 5 in ISI Web of Science databases). Conference presentations: 4 talks and 9 posters at national and international conferences. Patents (national): 2 patent applications at OSIM Bucharest. Research and development projects based on national grants: 4 projects as a member of the project. Research stages: Ege University, Faculty of Engineering (Izmir – AR-TUBA inter-academic exchange), University of Rijeka - UNIRI, Faculty of Biotechnology and Drug Development (Rijeka – scientific mobility project).

Relevant 5 publications

1. Alexandra Vieru (Croitoriu), O. Yilmaz, A. G. Rusu, C. N. Cheaburu-Yilmaz, A. Ghilan, L. E. Nita, Synthesis and Characterization of Innovative Double-Network Hydrogels with Potential as Adsorbent Materials for Wastewater Treatment, Polymers, 2025, 17(4):463, *F.I. = 4.7*
2. A. Chiriac, A. Ghilan, Alexandra Croitoriu, A. Serban, M. Bercea, E. Stoleru, L.E. Nita, F. Doroftei, I. Stoica, A. Bargan, A. Rusu, V.M. Chiriac, Cellulose nanofibrils/ copolymacrolactone based nano-composites with hydrophobic behaviour, self-healing ability and antioxidant activity, International Journal of Biological Macromolecules, 2024, 262(11):130034*, F.I. = 7,7*
3. Alexandra Croitoriu, A. P. Chiriac, A. G. Rusu, A. Ghilan, D. E. Ciolacu, I. Stoica, L. E. Nita, Morphological Evaluation of Supramolecular Soft Materials Obtained through Co-Assembly Processes, Gels, 2023, 9(11):886, *F.I. = 4,6*
4. L. E Nita, Alexandra Croitoriu, A. M. Serban, M. Bercea, A. G. Rusu, A. Ghilan, M. Butnaru, L. Mititelu-Tartau, A. P. Chiriac, New Hydrogels Based on Agarose/Phytagel and Peptides, Macromol Biosci, 2023, e2200451, *F.I. = 5,859*
5. Alexandra Croitoriu, A. G. Rusu, A. Ghilan, M. Bercea, L. E. Nita, A. P. Chiriac, New Fmoc-amino acids/peptides-based supramolecular gels obtained through co-assembly process: preparation and characterization, Polymers, 2022, 14(16), 3354, *F.I. = 5,0*