

**Dr. Alina Ghilan**

Scientific Researcher

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Research topics

Alina Ghilan initiated her research activity with a primary focus on the design of magnetic polymer composites and nanocomposites exhibiting antioxidant properties. Her current research interests revolve around the investigation of injectable biomaterials featuring a three-dimensional network constructed from a combination of synthetic and natural polymers for drug delivery and tissue engineering applications. Her expertise encompasses the structural and morphological characterization of polymeric materials through the utilization of various analytical techniques, such as Fourier-transform infrared (FT-IR) spectroscopy, nuclear magnetic resonance spectroscopy (NMR), Near Infrared Spectroscopy, electron microscopy, and thermal analysis. In addition, she has specialized skills in working with the ZetaSizer and Mastersizer analyzer, which provide information on particle size, zeta potential, and molecular weight.

Scientific research

Her research achievements include the publication of 68 articles in prestigious international journals (13 as first author), including 60 articles in ISI-indexed journals, 4 articles in international peer-reviewed journals not indexed by ISI, and 4 articles published in the proceedings of international scientific conferences. Additionally, her scientific output includes 3 book chapters and 7 patents. According to Google Scholar, the published articles have received 1618 citations, resulting in a Hirsch index of 18.

Relevant publications (5)

1. Alina Ghilan, Maria Bercea, Alina Gabriela Rusu, Natalia Simionescu, Alexandru Șerban, Alexandra Bărgan, Loredana Niță E, Aurica P. Chiriac, Self-healing injectable hydrogels incorporating hyaluronic acid and phytic acid: Rheological insights and implications for regenerative medicine, International Journal of Biological Macromolecules, 279(9):135056, 2024.

2. Alina Ghilan, Raluca Nicu, Diana Ciolacu, Florin Ciolacu, Insight into the latest medical applications of nanocellulose, *Materials (Basel)*, 17, 16(12):4447, 2023.
3. Alina Ghilan, Alexandra Croitoriu, Aurica P. Chiriac, Loredana Elena Niță, Maria Bercea, Alina Gabriela Rusu, Injectable networks based on a hybrid synthetic/natural polymer gel and self-assembling peptides functioning as reinforcing fillers, *Polymers (Basel)*, 26;15(3):636, 2023.
4. Alina Ghilan, Loredana Elena Niță, Daniela Pamfil, Natalia Simionescu, Niță Tudorachi, Daniela Rusu, Alina Gabriela Rusu, Maria Bercea, Irina Roșca, Diana Ciolacu, Aurica Chiriac, One-step preparation of carboxymethyl cellulose-phytic acid hydrogels with potential for biomedical applications, *Gels*, 12, 8(10):647, 2022.
5. Alina Ghilan, Aurica P Chiriac, Loredana E Nita, Alina G Rusu, Iordana Neamtu, Vlad M Chiriac, Trends in 3D printing processes for biomedical field: opportunities and challenges, *Journal of Polymers and the Environment*, 28 (5), 1345-1367, 2020.