Curriculum Vitae

Personal information

Name and surname: Barzic Andreea Irina

Position: Scientific Researcher II

Employer: ”Petru Poni” Institute of Macromolecular Chemistry - Iasi, Romania

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Research topics

- Rheological behavior in polymer systems (polymer solutions, polymer dispersions containing micro/nanoparticles, partially ordered polymers) in order to optimize the processing conditions in the solid state
- Transparent polymers, with controllable refractive indices to minimize optical losses in solar cells or electroluminescent diodes
- Textured polymer surfaces by mechanical and/or plasma treatments for applications in electronics or medicine
- Birefringent polymer materials for optical filters, information storage or optical retardation components
- Polymer systems with variable permittivity for fast response electronic circuits and eco-composites for capacitive sensors
- Multiphase materials with phonon/electron transport adaptable to the requirements imposed by modern technologies

Scientific achievements

- > 85 ISI articles published in international journals
- 36 papers in non-ISI journals/conference proceedings
- 3 edited books and 6 books as co-authors

- >15 book chapters at international publishers
- >100 participations at conferences (at least 70 oral presentations)
- 13 research projects (from which 1 postdoctoral scholarship, 4 projects as director)
- 3 patent applications

Specializations and qualifications

- 6.03.2011-13.03.2011: Bioactive/biocompatible polymeric materials, training course, Zabrze, Poland
- 21.01.2012 - 28.01.2012: Open problems in systems chemistry, training course, Montpellier, France
- 12.03.2012-16.03.2012: Advances in biomaterials, training course, Vienna, Austria
- 8.07.2013-13.07.2013: Summer School 'Strengthening the Romanian research capacity in multifunctional polymeric materials - STREAM', organized by ”Petru Poni” Institute of Macromolecular Chemistry, Iasi, Romania
- 13.10. 2014 – 15.03. 2015: Data entry, validation and processing operator, training course organized within the project „PECAFROM - Promoting equal opportunities in the university and academic career for women in Romania“ POSDRU/144/6.3/S/127928, implemented by Romanian Academy, Iasi, Romania

Other activities

- Reviewer at international journals: Cellulose, Appl Surf Sci, Polym Bull, eXpress Polym Lett, Polym Compos, ACS Omega, Polymers, Spectrosc Lett, Polym Int, J Molec Struct, Spectrochim Acta Part A, Polym Eng Sci, Macromol Res
- Organizer at “3rd International Conference on Analytical Chemistry ROICAC” 2016; member of program committee at “International Conference on Photonics, Optics and Laser Technology – PHOTOOPTICS” in Prague, Czech Republic, 2019 & 2020; chairperson at la “International Conference on Rheology. Understanding the Viscoelastic Behavior of Materials – Progress and Challenges”, 2022
- Research internships at Centre of Polymer and Carbon Materials of Polish Academy of Sciences, from Gliwice & Zabrze, Poland; Centre de Mise en Forme des Materiaux from Sophia-Antipolis, France; Institute of Condensed Matter

Chemistry and Technologies for Energy and Institute of Science and Chemical Technology “Giulio Natta” from Genoa, Italy; “D. Ghiţu” Institute of Electronic Engineering and Nanotechnologies of the Technical University of Moldova from Chisinau, Moldova Republic.

List of selected research papers

1 **A.I. Barzic**, R.M. Albu, I. Stoica, C.-D. Nechifor, M.I. Avadanei, D.G. Dimitriu, D.O. Dorohoi, Birefringent polyvinyl alcohol layers as retardation components for display devices, Polym Adv Technol, 35, e6196/1-11 (2024)

2 **A.I. Barzic**, I. Stoica, M. Asandulesa, R.M. Albu, Novel polymer/bio-filler composites as alternative eco-friendly materialsfor energy storage: From solution behavior to solid state analysis, Mater. Today Chem., 34, 101807 (2023)

3 **A.I. Barzic**, R.M. Albu, C. Hulubei, S.F. Mahmoud, O.A. Abu Ali, Z.M. El-Bahy, I. Stoica, Polyimide layers with high refractivity and surface wettability adapted for lowering optical losses in solar cells, Polymers, 14, 4049 (2022)

4 **A.I. Barzic**, R.M. Albu, I. Stoica, C. Hulubei, New shielding covers based on transparent polyimide/ferrous sulfide composites that reduce optical losses in solar cells, Composites Science and Technology, 218, 109140 (2022)

5 **A.I. Barzic**, R.M. Albu, I. Stoica, Surface alteration implications on potential use of semi-alicyclic polyimide as biomedical materials, Appl. Surf. Sci., 540, 148377 (2021)

6 **A.I. Barzic**, M. Soroceanu, R. Rotaru, F. Doroftei, M. Asandulesa, C. Tugui, I.A. Dascalu, V. Harabagiu, Cellulose derivative/barium titanate composites with high refractive index, conductivity and energy density, Cellulose, 29:863–878 (2022)

7 **A.I. Barzic**, Novel aspects derived from the influence of dispersion properties of poly(4-vinylpyridine)/aluminum nitride nanocomposite encapsulants on light-extraction efficiency of light emitting diodes, Polym. Adv. Technol., 33, 1116 (2022)

8 **A.I. Barzic**, R.M. Albu, I. Stoica, Surface alteration implications on potential use of semi-alicyclic polyimide as biomedical materials, Appl. Surf. Sci., 540, 148377 (2021)

9 **A.I. Barzic**, C. Hulubei, M. Asandulesa, G. Lisa, D. Popovici, I. Stoica, A. Nicolescu, R. M. Albu, Interlayer dielectrics based on copolyimides containing non-coplanar alicyclic-units for multilevel high-speed electronics, Polym. Test., 90, 106704 (2020)

10 C. Hulubei, R.M. Albu, G. Lisa, A. Nicolescu, E. Hamciuc, C. Hamciuc, **A.I. Barzic**, Antagonistic effects in structural design of sulfur-based polyimides as shielding layers for solar cells, Sol. Energy Mater. Sol. Cells, 193, 219-230 (2019)