**Curriculum Vitae**

**Personal information**


| | |
|---|---|
| First name(s) / Surname(s) | **Emil Constantin Buruiana** |
| Address | 11 Independentei Street Iasi, Romania |
| Telephone(s) | +40-232-217454 |
| Fax | +40-232-211299 |
| E-mail | emilbur@icmpp.ro |
| Nationality | Romanian |
| Date of birth | April 3, 1945, Husi - Vaslui, Romania |


| | |
|---|---|
| **Work experience** | 48 years |
| Dates | 1968 - to date |
| Occupation or position held | Researcher |
| Main activities and responsibilities | *Synthesis of new monomers and polymers for developing photo- and biomaterials:*<br>- urethane acrylic monomers/oligomers, copolymers and block copolymers for applications in the field of dental materials, coatings, chemosensors, (nano)catalysis;<br>- hybrid composites based on polymers and nanoparticles (Au, Ag, ZnO, TiO2)<br>- chromophoric monomers and photopolymers: azobenzene-, stilbene- pyrene, anil, oximeurethane, quinone, triazene-polyurethanes/polyacrylates/copolymers<br>- soft polymeric membranes with photochromic, photodegradable, fluorescent, redox or laser/UV ablative properties, characterization of polymeric surfaces<br>- photochemistry/photophysics of the cromophore structures in solutions/thin films, reactions mechanisms, kinetics of the photoreactions, techniques of micro /nanostructuring<br>- alkylammonium monomers and polymers with liquid-crystalline properties, the LC polymer behavior<br>- ionomeric composites with polymerized in situ polypyrrole/ organo-modified clay<br><br>- *Other activities*:<br>Management activities: Head of Polyaddition and Photochemistry Laboratory (2004-2014); coordinator of national 22 grants/projects; collaborator in national /international projects (10/5); implication in the formation of young researchers. |
| Research interests | - Design, synthesis and characterization of new materials with photo(bio)activity; hybrid nanocomposites, modern techniques of characterization/micro/nanostructuring; ionic polyurethanes, poly(urethane-acrylates), copolymers/block copolymers; peptide-polymers; physico-chemical studies in solutions and thin films, new methods of synthesis, reaction mechanisms. |
| Name and address of employer | Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry, Iasi |
| Present Position | - Senior Scientist/ "Petru Poni" Institute of Macromolecular Chemistry, Iasi; Polyaddition and Photochemistry laboratory, subprogramme S2: *Innovative polymer materials, hybrid nanocomposites and functionalized nanostructures* |

**Education and training**

| | |
|---|---|
| Title of qualification awarded | 1978, Ph.D. in *Organic Chemistry and Macromolecular Compounds Structure*, Petru Poni Institute of Macromolecular Chemistry; Topic: *Reactivity of the unsaturated end groups in Poly(vinyl chloride).* |
| **Personal skills and competences** | A good knowledge of the combined synthesis techniques, spectral methods ($^1$H-NMR, IR/FTIR, UV-vis, fluorescence spectroscopy), thermal and surface analysis, etc. |
| **Computer** | A good knowledge of Microsoft Office (Word, PowerPoint, Excel), graphic/structures processing programs (Paint, ChemDraw, IsisDraw, Photoshop, Origin) |

Self-assessment

*European level (*)*

| **Understanding** | | **Speaking** | | **Writing** |
|---|---|---|---|---|
| Listening | Reading | Spoken interaction | Spoken production | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Language english** | B2 | Independent | B2 | Independent | B1 | Independent | B1 | Independent | B2 | Independent |
| **Language french** | A2 | Elementary | B1 | Independent | A2 | Elementary | A1 | Elementary | A2 | Elementary |

**Supplementary information**

-Assoc. Researcher - VCU-Richmond University, USA (1992-1994)
- Assoc. Prof.- Al. I. Cuza University, Iasi (2001-2009)
- Marie Curie Fellowships - Zabrze, Poland (2005-2006)
- Ph. D supervisor (2004 - )
- The Romanian Academy Prize for Chemistry, 1997

**Publications**

- over 160 papers from which 140, in international journals
- more than 100 communications at internal /international (meetings;
- Hirsch Index: 16

**November 2016**

Dr. Emil C. Buruiana

**Selected Papers (2016 – 2010):**


1. V.E. Podasca, T. Buruiana, E.C. Buruiana, UV-cured polymeric films containing ZnO and silver nanoparticles with UV-vis light-assisted photocatalytic activity, *Appl. Surf. Sci. 2016, 377, 262-273.*
2. T. Buruiana, V. Melinte, H. Aldea, I.M. Pelin, E.C. Buruiana, A new fluorinated urethane dimethacrylate with carboxylic groups for use in dental adhesive compositions, *Mater. Sci. Eng. C-Mater. Biol. Appl. 2016, 62, 96–104.*
3. A.L. Chibac, T. Buruiana, Violeta Melinte, I. Mangalagiu, G. Epurescu, E. C. Buruiana, Synthesis of new photoactive urethane carbohydrates and their behavior in UV or femtosecond laser-induced two-photon polymerization, *Des. Monom. Polym. 2016, 19, 12–23.*
4. V. Melinte, A.L. Chibac, T. Buruiana, G. Hitruc, E.C. Buruiana, Triazene UV-triggered photogeneration of silver/gold nanoparticles in block copolymer templates, *J. Nanopart. Res. 2015, 17, 422.*
5. A.L. Chibac, V. Melinte, T. Buruiana, I. Mangalagiu, E.C. Buruiana, Preparation of photocrosslinked sol-gel composites based on urethane-acrylic matrix, silsesquioxane sequences, $TiO_2$, and Ag/Au nanoparticles for use in photocatalytic applications, *J. Polym. Sci. Part A: Polym. Chem. 2015, 53, 1189-1204.*
6. M. Murariu, E.C. Buruiana, Synthesis and characterization of new optically active poly(acrylamide/methacrylurea-*co*-vinyl acetate) copolymers with dansyl units, *Des. Monom. Polym. 2015, 18, 118-128.*
7. A.L. Chibac, T. Buruiana, V. Melinte, I. Mangalagiu, E.C. Buruiana, Tuning the size and the photocatalytic performance of gold nanoparticles in situ generated in photopolymerizable glycomonomers, *RSC Adv. 2015, 5, 90922-90931.*
8. F. Jitaru, T. Buruiana, V.E. Podasca, E.C. Buruiana, Preparation and properties of new carbazole methacrylates and their polymer composites with ZnO for photocatalysis and sensing applications, *Soft Mater. 2015, 13, 67-76.*
9. V. Melinte, T. Buruiana, A. Chibac, N. Lupu, M. Grigoras, E.C. Buruiana, Preparation and properties of photopolymerized hybrid composites with covalently attached magnetite nanoparticles, *Chem. Eng. J. 2015, 259, 542-551.*
10. E.C. Buruiana, M. Murariu, T. Buruiana, Synthesis and characterization of poly [N-acryloyl-(D/L), (+/-)-phenylalanine-*co*-(D/L), (-/+)N-methacryloyloxyethyl-N'-2-hydroxybutyl(urea)] copolymers, *Cent. Eur. J. Chem. 2014, 12, 1056-1066.*
11. T. Buruiana, M. Nechifor, V. Melinte, V. Podasca, E.C. Buruiana, Synthesis of poly(alkenoic acid) with L-leucine residue and methacrylate photopolymerizable groups useful in formulating dental restorative materials, *J. Biomater. Sci – Polym. Ed. 2014, 25, 749-765.*
12. T. Buruiana, V. Melinte, I.D. Popa, E.C. Buruiana, New urethane oligodimethacrylates with quaternary alkylammonium for formulating dental composites, *J. Mater. Sci.: Mater. Med. 2014, 25, 1183-1194.*

13. A.L. Chibac, Violeta Melinte, T. Buruiana, E.C. Buruiana, Obtaining of hybrid nanocomposites by simultaneous photopolymerization of some urethane monomers and photoinduced formation of gold nanoparticles, *J. Polym. Sci. Part A: Poym. Chem. 2014, 52, 728-738.*
14. E.C. Buruiana, V.E. Podasca, T. Buruiana, Preparation and characterization of novel p-acryloyloxybenzaldehyde copolymers bearing pyrene or fluorescein moieties. Interaction of fluorophore with some quenchers and silver nanoparticles, *Des. Monom.Polym. 2014, 17, 89- 100.*
15. V. Melinte, T. Buruiana, H. Aldea, S. Matiut, M. Silion, E.C. Buruiana, Photopolymerizable phosphate acrylates as comonomers in dental adhesives with or without triclosan monomer units, *Mater. Sci. Eng. C-Mater. Biol. Appl. 2014, 34, 176-185.*
16. V.O. Potolinca, E.C. Buruiana, S. Oprea, Dielectric behavior of polyurethane and polyurethane-urea elastomers with pyridine moieties in the main chain, *J. Polym. Res. 2013, 20, 237.*
17. F. Jitaru, T. Buruiana, G. Hitruc, E.C. Buruiana, Preparation and characterization of block copolymers containing cinnamate groups with end-capped ZnO, Cent. *Eur. J. Chem. 2013, 11, 1492-1504.*
18. A. Matei, J. Schou, S. Canulescu, M. Zamfirescu, C. Albu, B. Mitu, E.C. Buruiana, T. Buruiana, C. Mustaciosu, I. Petcu, M. Dinescu, Functionalized ormosil scaffolds processed by direct laser polymerization for application in tissue engineering, *Appl. Surf. Sci. 2013, 278, 357-361.*
19. E.C. Buruiana, F. Jitaru, A. Matei, M. Dinescu, T. Buruiana, Synthesis and photostructuring of hybrid photopolymers with cinnamate and anil moieties by using UV light and femtosecond laser pulses, *Soft Mater. 2013, 11, 165-172.*
20. E.C. Buruiana, F. Jitaru, V. Melinte, T. Buruiana, Effect of cinnamate comonomers on the dental formulation properties, *J. Appl. Polym. Sci. 2013, 127, 2442-2452.*
21. L.E. Sima, E.C. Buruiana, T. Buruiana, A. Matei, G. Epurescu, M. Zamfirescu, A. Moldovan, S.M. Petrescu, M. Dinescu, Dermal cells distribution on laser-structured ormosils, *J. Tissue Eng. Regen. Med. 2013, 7, 129-138.*
22. E.C. Buruiana, A.L. Chibac, T. Buruiana, V. Melinte, L. Balan, A benzophenone-bearing acid oligodimethacrylate and its application to the preparation of silver/gold nanoparticles/polymer nanocomposites, *J. Nanopart. Res. 2013, 15, 1335.*
23. E.C. Buruiana, A.L. Chibac, V. Melinte, T. Buruiana, Preparation of amphiphilic block copolymer containing triazene moieties and fluorescence study, *J. Chem. Sci. 2013, 125, 193–202.*
24. E.C. Buruiana, F. Jitaru, N. Olaru, T. Buruiana, Preparing and structuring of block copolymers with cinnamate and adamantane moieties, *Des. Monom. Polym. 2013, 16, 1-13.*
25. E.C. Buruiana, F. Jitaru, A. Matei, M. Dinescu, T. Buruiana, Influence of UV irradiation and two photon processing on the cinnamate monomers polymerization and formation of hybrid composites with nanosized ZnO, *Eur. Polym. J. 2012, 48, 1976-1987.*
26. S. Oprea, V.O. Potolinca, E.C. Buruiana, Novel pyridine-based poly(urethane-urea) elastomers with several different cross-linkers in the hard segment structure, *Adv. Polym. Technol. 2012, 31, 364-373.*
27. E.C. Buruiana, V.E. Podasca, T. Buruiana, Synthesis of block copolymers derived from N-trityl-(S)-serine and pyrene end-labeled poly(methyl methacrylate) or poly(N-isopropylacrylamide) via ATRP, *J. Lumines. 2012, 132, 2704-2713.*
28. L.E. Sima, E.C. Buruiana, T. Buruiana, A. Matei, G. Epurescu, M. Zamfirescu, A. Moldovan, S.M. Petrescu, M. Dinescu, Guidance of dermal cells distribution by laser-structured ormosils, *FEBS J. 2012, 279, 568-568.*
29. A. Chibac, V. Melinte, T. Buruiana, L. Balan, E.C. Buruiana, One-pot synthesis of photocrosslinked sol–gel hybrid composites containing silver nanoparticles in urethane-acrylic matrixes, *Chem. Eng. J. 2012, 200-202, 577–588.*
30. A. Matei, M. Zamfirescu, C. Radu, E.C. Buruiana, T. Buruiana, C. Mustaciosu, I. Petcu, M. Radu, M. Dinescu, Producing ORMOSIL scaffolds by femtosecond laser polymerization, *Appl. Phys. A-Mater. Sci. Process. 2012, 108, 91-97.*
31. A. Matei, M. Zamfirescu, M. Dinescu, E.C. Buruiana, T. Buruiana, A. Lungu, C. Mustaciosu, Investigation of hybrid methacrylate based structures obtained by polymerization with femtosecond laser pulses, *Digest J. Nanomater. Biostruct. 2012, 7, 823-832.*
32. V. Melinte, T. Buruiana, L. Balan, E.C. Buruiana, Photocrosslinkable acid urethane dimethacrylates from renewable natural oil and their use in the design of silver/gold polymeric nanocomposites, *React. Funct. Polym. 2012, 72, 252–259.*
33. T. Buruiana, V. Melinte, F. Jitaru, E.C. Buruiana, L. Balan, Preparation of siloxane-based urethane dimethacrylates carrying carboxylic groups and the effect of silver nanoparticles on the properties of composite polymer films, *J. Polym. Sci. Part A: Polym. Chem. 2012, 50, 874-883.*

34. T. Buruiana, V. Melinte, F. Jitaru, H. Aldea, E.C. Buruiana, Photopolymerization experiments and properties of some urethane/urea methacrylates tested in dental composites, *J. Compos. Mater. 2012, 46, 371-382.*
35. A. Matei, M. Zamfirescu, C. Radu, M. Dinescu, E.C. Buruiana, T. Buruiana, L.E. Sima, S.M. Petrescu, Laser processing of ormosils for tissue engineering applications, *Appl. Phys. A-Mater. Sci. Process. 2011, 104, 821-827.*
36. E.C. Buruiana, A.L. Chibac, T. Buruiana, V. Musteata, Synthesis and properties of fluorescent hybrid nanocomposites based on copolyacrylates with dansyl semicarbazide units, *J. Lumines. 2011, 131, 1492-1501.*
37. T. Buruiana, V. Melinte, G. Costin, E.C. Buruiana, Synthesis and properties of liquid crystalline urethane methacrylates for dental composite applications, *J. Polym. Sci. Part A: Polym. Chem. 2011, 49, 2615-2626.*
38. V. Melinte, T. Buruiana, A. Mihai, E.C. Buruiana, Carboxylic polyurethane/organoclay nanocomposites and their properties, *High Perform. Polym. 2011, 23, 238-247.*
39. E.C. Buruiana, F. Jitaru, G. Hitruc, T. Buruiana, Synthesis and properties of photosensitive poly(urethane-acrylate) containing anil groups with application in the chemosensors area, *Polym. Eng. Sci. 2011, 51, 884-893.*
40. V. Melinte, T. Buruiana, D. Tampu, E.C Buruiana, Synthesis of hybrid nanocomposites based on new triazeno copolymers and montmorillonite used for detecting metal ions, *Polym. Int. 2011, 60, 102–111.*
41. A. Matei, M. Dinescu, E.C. Buruiana, T. Buruiana, I. Petcu, C. Mustaciosu, Ormosils scaffolds produced by laser processing for fibroblast cell growth, *Digest J. Nanomater. Biostruct. 2011, 6, 29-35.*
42. E.C. Buruiana, M. Murariu, T. Buruiana, Copolyacrylates with phenylalanine and anthracene entities prepared by ATRP and microwave irradiation, *J. Lumines. 2010, 130, 1794-1801.*
43. E.C. Buruiana, A.L. Chibac, T. Buruiana, Polyacrylates containing dansyl semicarbazide units sensitive for some structures in solution and film, *J. Photochem. Photobiol. A.: Chem. 2010, 213, 107-113.*
44. E.C. Buruiana, M. Zamfir, V. Melinte, T. Buruiana, Photo-polymers containing (S)-phenylalanine and stilbene pendants: synthesis and properties of ionic polyacrylates, *Des. Monom. Polym. 2010, 13, 21-32.*
45. E.C. Buruiana, F. Jitaru, T. Buruiana, N. Olaru, Polycinnamates and block copolymers prepared by atom transfer radical polymerization and microwave irradiation, *Des. Monom. Polym. 2010, 13, 167-180.*

E. Buruiana