CURRICULUM VITAE

PERSONAL DETAILS

Scientific Researcher II (equivalent to Assoc. Prof.) Dr. Ir. JERCA Valentin Victor

Smart Organic Materials Group

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EDUCATION

2007-2011 – PhD in Polymer Chemistry and Chemical Engineering, Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest

2002-2007 – BSc in Chemical Engineering, Faculty of Applied Chemistry and Materials Science, University Politehnica of Bucharest

WORK PLACE

2021-present – *Scientific Researcher II (equivalent to Assoc. Prof.) and Group Leader* at "Costin D. Nenitzescu" Institute of Organic and Supramolecular Chemistry Romanian Academy

2007-2020 – *Scientific Researcher* at "Costin D. Nenitzescu" Institute of Organic and Supramolecular Chemistry Romanian Academy

2016-2020 – *Senior postdoctoral researcher* at Ghent University

2014-2015 – *Postdoctoral researcher* at University Politehnica of Bucharest

SCIENTIFIC ACHIEVEMENTS

>80 refereed scientific publications, >25 as leading author, >1700 citations; H-index of 22; 5 patent applications; 4 book chapters

(Co)promoter for Bachelor, Master, and PhD theses, and postdocs.

> 50 oral communications at international conferences out of which > 20 invited lectures

Member of the editorial board of Dyes and Pigments and Materials

Reviewer for over 30 international journals, including Macromolecules, Polym. Chem., Chem. Sci., JACS Au, Acta Biomaterialia, Biomaterials, Chem. Eng. J., Adv. Mat., Adv. Funct. Mat. and Eur. Polym. J.

Attracted ~ 300,000 euro of research funds in the past 5 years via competitive schemes.

AWARDS

2012 – The Romanian Academy Prize "Costin D. Nenitzescu" awarded for the series of papers in the field of "Macromolecular architectures based on oxazoline and azobenzene building blocks"

SELECTED PUBLICATIONS

1. Ghibu E, Vasile V, Caras I, Giol ED, Banu ND, Vuluga, DM, Stan R, **Jerca VV***, Jerca FA*. Poly(2-isopropenyl-2-oxazoline) Hydrogels with Biodegradable Junction Points for Drug-Delivery Applications. *Chemistry of Materials* 2024, 36(15): 7459-7475.

2. Yu PT, Sedlacik T, Parmentier L, Jerca FA, **Jerca VV**, Van Vlierberghe S, Leiske MN, Hoogenboom R. Degradable Cell-Adhesive Hybrid Hydrogels by Cross-Linking of Gelatin with Poly(2-isopropenyl-2-oxazoline). *Biomacromolecules* 2024, 25(8): 5332-5342.

3. Monnery BD, **Jerca, VV**, Hoogenboom, R, Swift T. Polymer Conformation Determination by NMR Spectroscopy: Comparative Diffusion Ordered ^{1}H-NMR Spectroscopy of Poly(2-ethyl-2-oxazoline)s and Poly(ethylene glycol) in D_2O. *Polymer Chemistry* 2024, 15(30): 3077-3085.

4. Stînga G, Baran A, Iovescu A, Maxim ME, **Jerca VV**. A Highly Selective Multifunctional Naphthalene-Labeled Polymer Sensor for Cu^{2+} and Fe^{3+} Ions in Aqueous Medium, *Journal of Molecular Liquids* 2024, 406: 125074.

5. Xu, X, Maji S, **Jerca VV**, Sedlacik T, Hoogenboom, R. Self-Healing and Shape-Memory Multiphase Thermoplastic Elastomers Based on Electrostatic Assembly of Oppositely Charged Diblock Copolymer Assemblies. *ACS Applied Polymer Materials* 2024, 6(3): 1611-1621.

6. Jerca FA, Muntean C, Remaut K, **Jerca VV**, Raemdonck K, Hoogenboom R. Cationic Amino-Acid Functionalized Polymethacrylamide Vectors for siRNA Transfection Based on Modification of Poly(2-isopropenyl-2-oxazoline). *Journal of Controlled Release* 2023, 364: 687-699.

7. Merckx R, Becelaere J, Schoolaert E, Frateur O, Leiske MN, Peeters D, Jerca FA, **Jerca VV***, De Clerck K*, Hoogenboom R*. Poly(2-isoproprenyl-2-oxazoline)-Based Reactive Hydrophilic Cross-Linked Nanofiber Networks as the Basis for Colorimetric Continuous Meat Freshness Monitoring Sensors. *Chemistry of Materials* 2023, 35(17): 7079-7093.

8. Saravanan S, Babu A, Merckx R, Zhong ZF, Anandan M, Nutalapati V, De Geest BG, Hoogenboom R*, **Jerca VV***, Maji S*. Design of Fluorescent Polymeric Thermometers Based on Anthrapyrazolone Functionalized Oligo(ethylene glycol) Methacrylates. *Materials Chemistry Frontiers* 2023, 7(9): 1875-1885.

9. Vergaelen M, Monnery BD, **Jerca VV**, Hoogenboom R. Detailed Understanding of Solvent Effects for the Cationic Ring-Opening Polymerization of 2-Ethyl-2-oxazoline. *Macromolecules* 2023, 56(4): 1534-1546.

10. Verjans J, Sedlacik T, Jerca VV, Bernhard Y, Van Guyse JFR, Hoogenboom R. Poly(N-allyl acrylamide) as a Reactive Platform toward Functional Hydrogels. *ACS MacroLetters* 2023, 12(1): 79-85.

11. Xu X, **Jerca VV**, Hoogenboom R. Self-Healing Hydrogels by Metal Complexation of 2,6-Bis(1,2,3-triazol-4yl)pyridine Functionalized Tetra-Arm Star Poly(ethylene glycol). *Macromolecular Chemistry and Physics* 2023, 224(3): 2200330.

12. Baran A, Aricov L, Stînga G, Iovescu A, Leonties AR, **Jerca VV**. The Effect of $C_{12}E_6$ Nonionic Surfactant on the Solubilization of Eosin Y in Unmodified- and Hydrophobically Modified Poly(acrylic acid) solutions. *Journal of Molecular Liquids* 2022, 346: 117103.

13. Arraez FJ, Xu X, Edeleva M, Van Steenberge, PHM, Marien YW, **Jerca VV**, Hoogenboom R, D'hooge DR. Differences and Similarities Between Mono-, Bi- or Tetrafunctional Initiated Cationic Ring-Opening Polymerization of 2-Oxazolines. *Polymer Chemistry* 2022, 13(7): 861-876.

14. Jerca FA, **Jerca, VV**, Hoogenboom R. In Vitro Assessment of the Hydrolytic Stability of Poly(2-isopropenyl-2-oxazoline). *Biomacromolecules* 2021, 22(12): 5020-5032.

15. Jerca FA, **Jerca VV***, Hoogenboom R*, Advances and Opportunities in the Exciting World of Azobenzenes. *Nature Reviews Chemistry* 2022, 6(1): 51-69.

16. Xu X, Seiffert AK, Lenaerts R, Ryskulova K, Jana S, Van Hecke K, **Jerca VV**, Hoogenboom R. [2 x 2] Metallo-Supramolecular Grids Based on 4,6-Bis((1H-1,2,3-triazol-4-yl)-pyridin-2-yl)-2-phenylpyrimidine Ligands: From Discrete [2 x 2] Grid Structures to Star-Shaped Supramolecular Polymeric Architectures. *Dalton Transactions* 2021, 50(25): 8746-8751.

17. Xu X, **Jerca VV**, Hoogenboom, R. Bioinspired Double Network Hydrogels: From Covalent Double Network Hydrogels via Hybrid Double Network Hydrogels to Physical Double Network Hydrogels. *Materials Horizons* 2021, 8(4): 1173-1188.

18. Mitran RA, Lincu D, Ionita S, Deaconu M, **Jerca VV**, Mocioiu OC, Berger D, Matei C. High Temperature Shape Stabilized Phase Change Materials Obtained Using Mesoporous Silica and NaCl - NaBr - Na_2MoO_4 Salt Eutectic. *Solar Energy Materials and Solar Cells* 2020, 218: 110760.

19. Iordache TV, Banu ND, Giol ED, Vuluga DM, Jerca FA*, **Jerca VV***. Factorial Design Optimization of Polystyrene Microspheres Obtained by Aqueous Dispersion Polymerization in the Presence of Poly(2-ethyl-2-oxazoline) Reactive Stabilizer. *Polymer International* 2020, 69(11): 1122-1129.

20. Merckx R, Swift T, Rees R, Van Guyse JFR, Schoolaert E, De Clerck K, Ottevaere H, Thienpont H, **Jerca VV***, Hoogenboom R*. Forster Resonance Energy Transfer in Fluorophore Labeled Poly(2-ethyl-2-oxazoline)s. *Journal of Materials Chemistry C* 2020, 8(40): 14125-14137.

21. Xu X, Jerca FA, **Jerca VV***, Hoogenboom R*. Self-Healing and Moldable Poly(2-isopropenyl-2-oxazoline) Supramolecular Hydrogels Based on a Transient Metal Coordination Network. *Macromolecules* 2020, 53(15): 6566-6575.

22. Ceglowski M, **Jerca VV**, Jerca FA, Hoogenboom R. Reduction-Responsive Molecularly Imprinted Poly(2-isopropenyl-2-oxazoline) for Controlled Release of Anticancer Agents. *Pharmaceutics* 2020, 12(6): 506.

23. Van Den Broeck E, Verbraeken B, Dedecker K, Cnudde P, Vanduyfhuys L, Verstraelen T, Van Hecke K, **Jerca VV**, Catak S, Hoogenboom R, Van Speybroeck V. Cation-π Interactions Accelerate the Living Cationic Ring-Opening Polymerization of Unsaturated 2-Alkyl-2-oxazolines. *Macromolecules* 2020, 53(10): 3832-3846.

24. Xu X, **Jerca VV**, Hoogenboom R. Structural Diversification of Pillar[n]arene Macrocycles. *Angewandte Chemie-International Edition* 2020, 59(16): 6314-6316.

25. Xu X, Jerca VV, Hoogenboom R. Bio-inspired Hydrogels as Multi-task Anti-icing Hydrogel Coatings. *Chem* 2020, 6(4): 820-822.

26. Maji S, **Jerca VV**, Hoogenboom R. Dual pH and Thermoresponsive Alternating Polyampholytes in Alcohol/Water Solvent Mixtures. *Polymer Chemistry* 2020, 11(12): 2205-2211.

27. Xu X, Jerca FA, Van Hecke K**, Jerca VV***, Hoogenboom R*. High Compression Strength Single Network Hydrogels with Pillar[5]arene Junction Points. *Materials Horizons* 2020, **7**(2)**:** 566-573.

28. Xu X, **Jerca VV**, Hoogenboom R. Self-Healing Metallo-Supramolecular Hydrogel Based on Specific Ni^{2+} Coordination Interactions of Poly(ethylene glycol) with Bistriazole Pyridine Ligands in the Main Chain. *Macromolecular Rapid Communications* 2020, 41(4): 1900457.

SCIENTIFIC CONTRIBUTIONS

Dr. Victor Jerca currently leads the Smart Organic Materials Group (SMOG) from Costin D. Nenitzescu" Institute of Organic and Supramolecular Chemistry. The research of SMOG group aims to bridge the gap between fundamental and applied research in the field of organic materials and to provide solutions to major challenges facing our society. The research activities of SMOG concern the development of functional monomers, multi-functional materials, photoresponsive materials for photonics and polymeric networks. Dr. Jerca has a high track-record of published fundamental and applicative work, with emphasis on synthesis and characterization of functional polymers, and polymeric materials, with particular focus on polyoxazoline-based smart materials. He is author or co-author of over 80 publications in international peer reviewed journals that attracted over 1700 citations leading to an h-index of 22. Publications in high impact journals include Nat. Rev. Chem. (1 x impact factor (IF) = 38.1), Chem (2 x IF = 19.1), Adv. Func. Mat. (1 x IF = 18.5), Angew. Chem. Int. Ed. (3 x IF = 16.1), Mater. Horiz. (2 x IF = 12.2), J. Control. Release (1 x IF = 10.5), Chem. Mat. (3 x IF = 7.2), Polym. Chem. (6 × IF = 4.1), Macromolecules (4 ×; IF = 5.1) Biomacromolecules (2 x IF = 5.5) and Eur. Polym. J. (2 x IF = 5.8). For the full publication list see https://orcid.org/0000-0001-6997-4979 .