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Education

2006 –2010	PhD, Chemistry, Romanian Academy, "Petru Poni" Institute of Macromolecular Chemistry (ICMPP), Iasi, Romania;
2005 - 2007	Master of science, Faculty of Chemistry, "Al.I. Cuza" University Iasi, Romania;
2005	Bachelor in science, Faculty of Chemistry, "Al.I.Cuza" University Iasi, Romania.

Work experience

2006 - present	Assistant researcher (→2011) / Scientific Researcher grade III, Inorganic Polymers Department, ICMPP, Iasi, Romania
2013-2014	Postdoc, EMPA - Swiss Federal Laboratories for Materials Science and Technology, Dübendorf, Switzerland
2012	EMPA - COST STSM Application
2012 / 2013	Institute of Inorganic and Analytical Chemistry, Technical University Braunschweig, Germany

Main research: synthesis of siloxane monomers and oligomers; chemical modification of siloxane oligomers; Schiff bases metal complexes containing siloxane units; development of multi-stimuli sensitive silicon materials for various applications in sensing, energy harvesting, stretchable electronics and actuation.

Awards: • "Cristofor I. Simionescu" Romanian Academy Award/2014, topic "New compounds and materials developed with the involving of siloxane segment", Bucharest, December 2016; • 2nd award "Young researchers" November 2007, "Multifunctional nanostructured silicon materials" 11th National Symposium New Materials, Micro and Nanotechnologies, MATNANTECH-CEEX, Sinaia, Romania.

Contributions, Mentorship and Communications: • 75 scientific papers, 3 book chapter, 19 conference proceedings and conference presentations (63 Talks & 41 Posters); 3 national patents submitted; • PhD and postdoctoral research performed with interdisciplinary groups; • Trained and mentored students with different research backgrounds; • h-index: 19 (Web of Science)/ 20 (Google Scholar); • citations: 931citations (Web of Science, 793 without self-citation). **Projects:** as team member *in **24**, international projects: 5, national projects: 19.*

Research articles:

- C. Racles, A. Bele, A.L. Vasiliu, **M. Dascalu**, Emulsion template-based porous silicones with piezocapacitive response, *Reactive and Functional Polymers*, 200, Article 105913/1-12 (2024) https://doi.org/10.1016/j.reactfunctpolym.2024.105913
- A.C. Stoica, M. Damoc, A. Bele, A. Dascalu, A.M. Macsim, S. Shova, **M. Dascalu**, M. Cazacu, A 3D coordination polymer of Cd(II) with conformationally flexible mixed ligands as an active filler for silicone elastomers *Reactive and Functional Polymers*, 197, Article 105876/1-13 (2024) https://doi.org/10.1016/j.reactfunctpolym.2024.105876

- B.I. Ciubotaru, M. F. Zaltariov, **M. Dascalu**, A. Bele, A. Bargan, M. Cazacu, Amino-functionalized silicones processed as porous dual covalent/supramolecular networks for pressure sensing, *Reactive and Functional Polymers*, 194, Article 105792/1-14 (2024) https://doi.org/10.1016/j.reactfunctpolym.2023.105792
- M. Damoc, V. Tiron, C. Tugui, C.D. Varganici, A.C. Stoica, G. Novitchi, **M. Dascalu**, M. Cazacu, Ferronematic Co(II) complex: An active filler for magnetically actuated soft materials, *Small*, 20, Article 2307006/1-12 (2024) https://doi.org/10.1002/smll.202307006
- I. Gradinaru, B.I. Ciubotaru, M. Butnaru, F.D. Cojocaru, C.T. Covasa, T. Bibire, **M. Dascalu**, A. Bargan, M. Cazacu, M. F. Zaltariov The impact of addition of vitamins on a silica lining materials to the oral mucosa tissue - Evaluation of the biocompatibility, hydrolytic stability and histopathological effect, *Medicina*, 59, Article 1936/1-18 (2023) https://doi.org/10.3390/medicina59111936
- **M. Dascalu**, A. C. Stoica, A. Bele, L. Yu, D. Ionita, A. L. Vasiliu, A. Ladegaard Skov, C. Racles, M. Cazacu, Fully carboxy-functionalized polyhedral silsesquioxanes as polar fillers to enhance the performance of dielectric silicone elastomers Polymer , 289, Article 126492/1-10 (2023) https://doi.org/10.1016/j.polymer.2023.126492
- M. Cazacu, **M. Dascalu**, G. T. Stiubianu, A. Bele, C. Tugui, C. Racles, From passive to emerging smart silicones Reviews in Chemical Engineering, 39, 941-1003 (2023) https://doi.org/10.1515/revce-2021-0089
- **M. Dascalu**, A.-L. Chibac-Scutaru, G. Roman, Detection of nitroaromatics by a Zn(II)-containing coordination polymer derived from a 1,2,3-triazole-based tricarboxylate ligand, J. Molec. Liq. 386, 122457, 2023. https://doi.org/10.1016/j.molliq.2023.122457
- A.C. Stoica, M. Damoc, S. Shova, G. Novitchi, **M. Dascalu**, M. Cazacu, A Manganese (II) 3D metal–organic framework with siloxane-spaced dicarboxylic ligand: synthesis, structure, and properties Inorganics 11(1), 21 (2023) https://doi.org/10.3390/inorganics11010021
- A. C. Stoica, M. Damoc, C. Cojocaru, A. Nicolescu, S. Shova, **M. Dascalu**, M. Cazacu, Some theoretical and experimental evidence for particularities of the siloxane bond Molecules, 27, Article 8553/1- 23 (2022) https://doi.org/10.3390/molecules27238563
- G. T. Stiubianu, A. Bele, A. Bargan, V. O. Potolinca, M. Asandulesa, C. Tugui, V. Tiron, C. Hamciuc, **M. Dascalu**, M. Cazacu, All-polymer piezo-composites for scalable energy harvesting and sensing devices Molecules, 27, Article 8524/1- 21 (2022) https://doi.org/10.3390/molecules27238524
- M. Damoc, R. I. Tigoianu, A. C. Stoica, A. M. Macsim, M. Dascalu, S. Shova, M. Cazacu, Micellization turned on dual fluorescence and room temperature phosphorescence by pseudo-ESIPT in thiadiazole derivatives Journal of Physical Chemistry C, 127, 99-109 (2023) https://doi.org/10.1021/acs.jpcc.2c07651
- M.M. Popa, S. Shova, **M. Dascalu**, M. R. Cara, F. Dumitrascu, Crystal structures of 5-bromo-1-arylpyrazoles and their halogen bonding features CrystEngComm, 25, 86-94 (2023) https://doi.org/10.1039/d2ce01355j
- A. Bele, **M. Dascalu**, C. Tugui, G.T. Stiubianu, C.D. Varganici, C. Racles, M. Cazacu, A.L. Skov, Soft silicone elastomers exhibiting large actuation strains; J. Appl. Polym. Sci. 139, 52261/1-11 (2022) https://doi.org/10.1002/app.52261
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- M. Iacob, V. Tiron, G.T. Stiubianu, **M. Dascalu**, L. Hernandez, C.D. Varganici, C. Tugui, M. Cazacu; Bentonite as an active natural filler for silicone leading to piezoelectric-like response material; J. Mater. Res. Technol. 17, 79-94 (2022) https://doi.org/10.1016/j.jmrt.2021.12.125

- M. Damoc, A.C. Stoica, D.A. Blaj, A.M. Macsim, **M. Dascalu**, C. Cojocaru, S. Shova, M. Cazacu; Fourteen-member silacycle built by cascade reactions induced by a platinum catalyst; J. Mol. Struct. 1269, Article 133760/1-8 (2022) https://doi.org/10.1016/j.molstruc.2022.133760
- L. Sacarescu, **M. Dascalu**, A.L. Chibac-Scutaru, G. Roman; Synthesis, structural characterization, photophysical study and investigation as fluorescent sensor towards metal ions of 1,2,3-triazole-azaindene hybrids; J. Photochem. Photobiol. A 433, Article 114160/1-13 (2022) https://doi.org/10.1016/j.jphotochem.2022.114160
- A. Bele, **M. Dascalu**, C. Tugui, A. Farcas; Silicone elastomers with improved electromechanical performance using slidering polymers; J. Polym. Res. 29, Article 202/1-9 (2022) https://doi.org/10.1007/s10965-022-03051-0
- A. Bele, L. Yu, **M. Dascalu**, D. Timpu, L. Sacarescu, C.D. Varganici, D. Ionita, D. Isac, A.L. Vasiliu; Binary silicone elastomeric systems with stepwise crosslinking as a tool for tuning electromechanical behavior; Polymers, 14, Article 211/1- 13 (2022) https://doi.org/10.3390/polym14010211
- B.I. Ciubotaru, **M. Dascalu**, M.F. Zaltariov, A.M. Macsim, M. Damoc, A. Bele, C. Tugui, C.D. Varganici, M. Cazacu; Catalyst-free crosslinked sustainable functional silicones by supramolecular interactions; React. Funct. Polym. 181, Article 105419/1-19 (2022) https://doi.org/10.1016/j.reactfunctpolym.2022.105419
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