



CURRICULUM VITAE

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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: • 73 scientific papers, 3 book chapter, 19 conference proceedings and conference presentations (49 Talks & 41 Posters); 2 national patents submitted; • PhD and postdoctoral research performed with interdisciplinary groups; • Trained and mentored students with different research backgrounds; • h-index: 18 (Web of Science)/ 20 (Google Scholar); • citations: 850 citations (Web of Science, 730 without self-citation). **Projects:** as team member in 23, international projects: 4, national projects: 19.

Most relevant research articles in the last five years [36 articles (8 Q1, 17 Q2) from a total of 73 articles]

- 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, 105792 (2024)
- **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, 126492 (2023)
- 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* 2307006 (2023)

- 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 the addition of vitamins on a silicone lining material to the oral mucosa tissue-evaluation of the biocompatibility, hydrolytic stability and histopathological effect, *Medicina* 59, 1936 (2023)
- **M. Dascălu**, 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
- 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
- M.M. Popa, S. Shova, **M. Dascalu**, M.R. Caira, F. Dumitrascu, Crystal structures of 5-bromo-1-arylpzrazoles and their halogen bonding features, *CrystEngComm* 25 (1), 86-94, 2023
- 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(23), 8563, 2022
- 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, 133760/1-8, 2022
- 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(23), 8524, 2022
- 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, 114160/1-13 (2022)
- 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)
- **M. Dascalu**, A.C. Stoica, A. Bele, A.M. Macsim, A. Bargan, C.D. Varganici, G.T. Stiubianu, C. Racles, S. Shova, M. Cazacu; Octakis(carboxyalkylthioethyl)silsesquioxanes and derived metal complexes: Synthesis, characterization and catalytic activity assessments; *J Inorg Organomet Polym Mater* 32, 3955-3970 (2022)
- A. Bele, **M. Dascalu**, C. Tugui, G.T. Stiubianu, C.D. Varganici, C. Racles, M. Cazacu, A. Ladegaard Skov, Soft silicone elastomers exhibiting large actuation strains, *J. Appl. Polym. Sci.* 139, 52261/1-11 (2022)
- A. Bele, **M. Dascalu**, C. Tugui, A. Farcas, Silicone elastomers with improved electromechanical performance using sliding polymers; *J. Polym. Res.* 29, Article 202/1-9 (2022)
- 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)
- 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)
- 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, *The Journal of Physical Chemistry C* 127 (1), 99-109, 2022
- M. Cazacu, M. Dascalu, G.T. Stiubianu, A. Bele, C. Tugui, C. Racles, From passive to emerging smart silicones, *Reviews in Chemical Engineering* 39 (6), 941-1003, 2022
- A.C. Stoica, M. Damoc, V. Tiron, **M. Dascalu**, A. Coroaba, S. Shova, M. Cazacu, Silanol-functionalized tetranuclear copper complex and its nanoscale-heterogenization by immobilization on glass surface from solution, *Journal of Molecular Liquids* 344, 117742, 2021
- B.I. Bratanovici, C. Cojocaru, A. Nicolescu, **M. Dascălu**, G. Roman, Di-topic hybrid ligands with an isoxazole ring in the central unit: Synthesis, structural characterization and molecular modelling, *Journal of Molecular Structure* 1245, 131129
- M. Damoc, A.C. Stoica, **M. Dascalu**, M. Asandulesa, S. Shova, M. Cazacu, Dual crystalline-amorphous salen-metal complexes behave like nematic droplets with AI-Egens vistas, *Dalton Transactions* 50 (39), 13841-13858, 2021

- M. Cazacu, C. Racles, M.-F. Zaltariov, **M. Dascalu**, A. Bele, C. Tugui, A. Bargan, G. Stiubianu, From amorphous silicones to Si-containing highly ordered polymers: some Romanian contributions in the field, *Polymers*, 2021, 13(10) Article Number: 1605.
- **M. Dascalu**, M. Iacob, C.Tugui, A. Bele, G.T.Stiubianu, C. Racles, M. Cazacu, Octakis(phenyl)-T8-silsesquioxanefilled silicone elastomers with enhanced electrochemical capability, *Journal of Applied Polymer Science*, 138, Article 50161/1-10 (2021)
- C. Racles, C. Ursu, **M. Dascalu**, M. Asandulesa, V. Tiron, A. Bele, C. Tugui, S. Teodoroff-Onesim, Multi-stimuli responsive free-standing films of DR1-grafted silicones, *Chem. Eng. J.*, 401, 126087/1-14, (2020)
- M. Damoc, A.C. Stoica, A.M. Macsim, **M. Dascalu**, M.F. Zaltariov, M. Cazacu, Salen-type Schiff bases spaced by the highly flexible and hydrophobic tetramethyldisiloxane motif. Some synthetic, structural and behavioral particularities, *J. Mol. Liq.*, 316, Article 113852/1-11 (2020)
- J.E.Q. Quinsaat, T. de Wild, F.A. Nüesch, D. Damjanovic, R. Krämer, G. Schürch, D. Häfliger, F. Clemens, T. Sebastian, **M. Dascalu**, D.M. Opris, Stretchable piezoelectric elastic composites for sensors and energy generators, *Compos. B. Eng.*, 198, 108211, 2020.
- S. Shova, A. Vlad, M. Damoc, V. Tiron, **M. Dascalu**, G. Novitchi, C. Ursu, M. Cazacu, Nanoscale coordination polymer of dimanganese(II) as infinite, flexible nanosheets with photoswitchable morphology, *Eur. J. Inorg. Chem.*, (21), 2043-2054 (2020)
- A. Bargan, M. Cazacu, **M. Dascalu**, A.M. Macsim, A. Soroceanu, I.F. Macsim, Synthesis, structural characterization and properties evaluation of two new zwitterionic siloxane compounds, *Polyhedron*, 179, Article 114356/1-19 (2020)
- S.P. Gavrish, S. Shova, M. Cazacu, **M. Dascalu**, Y.D. Lampeka, Syntheses and crystal structures of the one-dimensional coordination polymers formed by [Ni(cyclam)]²⁺ cations and 1,3-bis(3-carboxypropyl)tetramethyldisiloxane anions in different degrees of deprotonation, *Acta Cryst. E*, 76(Part 3), 446-451 (2020)
- M. Iacob, A. Airinei, M. Asandulesa, **M. Dascalu**, N. Tudorachi, L. Hernandez, M. Cazacu, Silicone elastomers filled with rare earth oxides, *Mater. Res.*, 7, Article 035703/1-11(2020)
- A. Bargan, M.F. Zaltariov, A. Vlad, A.M.C. Dumitriu, A. Soroceanu, A.M. Maxim, **M. Dascalu**, C.D. Varganici, M. Cazacu, S. Shova, Keto-enol tautomerism in new silatranes Schiff bases tailed with different substituted salicylic aldehyde, *Arab. J. Chem.*, 13, 3100-3111 (2020)
- C. Tugui, V. Tiron, **M. Dascalu**, L. Sacarescu, M. Cazacu, From ultra-high molecular weight polydimethylsiloxane to super-soft elastomer, *European Polymer Journal*, 120, 109243, 2019.
- J.E.Q. Quinsaat, I. Burda, R. Krämer, D. Häfliger, F.A. Nüesch, **M. Dascalu**, D.M. Opris, Conductive silicone elastomers electrodes processable by screen printing, *Scientific Reports*, 9, 13331, 2019.
- M. Iacob, C. Racles, **M. Dascalu**, C. Tugui, V. Lozan, M. Cazacu, Nanomaterials developed by processing iron coordination compounds for biomedical application, *Journal of Nanomaterials*, 2592974, 2019