

## Curriculum Vitae

### Name, Surname

Bele, Adrian

### Personal Information

**Date of birth:** January 20<sup>th</sup>, 1986; **Mother Tongue:** Romanian; **Other languages:** English (B2); **e-mail:** bele.adrian@icmpp.ro; **Work Address:** 41A Aleea Grigore Ghica Vodă St., Iași, România, 700487; **Tel.:** +40 721175723; **ORCID ID:** <https://orcid.org/0000-0001-8602-5273>; **Researcher ID:** D-4352-2019

### Education

- Degree:** Ph.D. in Chemistry / Smart Silicone Materials (Laboratory of Inorganic Polymers); **Institution:** Institute of Macromolecular Chemistry "Petru Poni", Iasi; **Period:** 2012 to 2017, Abstract: [http://www.icmpp.ro/doctorate/anunturi/5/Rez\\_Engl\\_Teza\\_ABele.pdf](http://www.icmpp.ro/doctorate/anunturi/5/Rez_Engl_Teza_ABele.pdf)
- Degree:** Master of Science (Chemical Engineering) / Gas absorption on thin liquid film columns; **Institution:** "Gh. Asachi" Technical University, Faculty of Chemical Engineering and Environmental Protection "Cristofer I. Simionescu", Iasi; **Period:** 2009 to 2011;
- Degree:** Bachelor of Science (Chemical Engineering); **Institution:** "Gh. Asachi" Technical University, Faculty of Chemical Engineering and Environmental Protection "Cristofer I. Simionescu", Iasi; **Period:** 2005 to 2009;

### Employment

- Institution:** "Petru Poni" Institute of Macromolecular Chemistry, Laboratory of Inorganic Polymers, Iasi. **Period:** 2022 to 2024 | **Project Manager** / Silicone-based modular artificial sensing skin for MMOD impact damage detection and evaluation system in spacecraft, PN-III-P1-1.1-TE-2021-0156.
- Institution:** "Petru Poni" Institute of Macromolecular Chemistry, Laboratory of Inorganic Polymers, Iasi. **Period:** 2020 to 2022 | **Project Manager** / Green silicone-based interpenetrated polymeric "spider webs" engineered for wave energy harvesting, PN-III-P1-1.1-PD-2019-0148. Web page available: <https://silweb.icmpp.ro/index.php>
- Institution:** "Petru Poni" Institute of Macromolecular Chemistry, Laboratory of Inorganic Polymers, Iasi. **Period:** 2015 to present | **Research Assistant** / Silicone-based dielectric elastomers for electromechanical applications, mechanical and dielectric characterisation of polymeric materials, dynamic vapor sorption on different materials.

### Scientific Grands and Training Schools

- EuroEAP - Scientific mission grand (SMG):** Green silicone based interpenetrating polymer networks as dielectric elastomers for electromechanical applications. **Period:** 27.06.-12.08.2017; **Department:** Danish Polymer Centre, Technical University of Denmark, Copenhagen, Denmark.
- Inter-academic Exchange:** Preparation and complex investigation of polymeric composites materials. **Period:** 29.06.2015 - 5.07.2015; **Department:** Polymer Institute, Bratislava, Slovak Republic.
- ESNAM Training School:** Dielectric Elastomer Transducers, **Period:** 25 – 27.03.2014, Darmstadt, Germany.
- ESNAM Training School:** Ionic Artificial Muscles, **Period:** 29 – 31.10.2013, Cartagena, Spain.
- EuroEAP Short Term Scientific Mission (STSM):** Testing new materials with improved dielectric breakdown strength and reduced current leakage, **Period:** 27.09 – 12.10.2013, **Department:** PERCO laboratory for soft robotics, Scuola Superiore Sant'Anna, Pisa, Italy.

### Oral Presentations (invited)

1. **A. Bele** et al.: *Silicone-based materials for electromechanical applications*, ISPO 2017, 02–06.07, 11th International Workshop on Silicone Polymers, Snekersten, Denmark.

### Oral Presentations (3 most relevant, only as 1<sup>st</sup> author)

1. **A. Bele**, et al.: *Flexible electrodes for dielectric elastomer generators*, ZAI 2015, 24–26.09, a XXV-a Sesiune de Comunicări Stiințifice a Institutului de Chimie Macromoleculară „Petru Poni”, Iași, Romania;
2. **A. Bele**, M. Cazacu: *Highly stretchable and compliant PDMS/carbon-based electrodes for energy harvesting*, PolyWEC annual project meeting - 2015, Edinburgh, Scotland;
3. **A. Bele** et al.: *Obtaining silicone-based composites and their test as artificial muscles*, Appolonia 2014, 27.02–01.03, International Congress “Pregătim Viitorul Promovând Excelența”, Iași, Romania

### Patents

1. **Title:** Process for obtaining a module of polymeric pressure sensors for detecting a mechanical impact, **Authors:** **A. Bele**, M. Cazacu, et. all, **Patent request nr.:** A100664;
2. **Title:** Process to obtain two-part silicone elastomers, **Authors:** **A. Bele**, C. Racles, et. all, **Patent request nr.:** A100341;
3. **Title:** High permittivity polymers based on functionalized silicones, **Authors:** D. M. Opris, S. Dunki, C. Racles, **A. Bele**, M. Cazacu, **Patent nr.:** WO2015135086A1;
4. **Title:** Modular Installation and Process to obtain Multi-Layer Polymeric Generators, **Authors:** **A. Bele**, M. Cazacu, M. Neagu, M. Popescu, C. Racles, **Patent nr.:** B32B 25/20, H01G 9/04.

### Awards

1. “Cristofor I. Simionescu” **Romanian Academy Award** offered for a group of publications entitled “Silicone-based materials in energy conversion systems”
2. Gold Medal at INVENTICA 2018: Modular Installation and Process to obtain Multi-Layer Polymeric Generators, Authors: **Bele A.**, Cazacu M., Neagu M., Popescu M., Racles C., Patent nr.: B32B 25/20, H01G 9/04;
3. Excellence Innovation Award: Modular Installation and Process to obtain Multi-Layer Polymeric Generators, Authors: **Bele A.**, Cazacu M., Neagu M., Popescu M., Racles C., Patent nr.: B32B 25/20, H01G 9/04 (offered by M. C. Costoiu, University of Bucharest at INVENTICA 2018)

### Summary of Scientific Activity

**Patents: 4; Scientific articles: 64** (ISI Web of Knowledge - average impact factor per article - 5.21); **Book chapters: 2;** Conference proceedings: 2; **Conference talks: 8; oral lectures: 1;** conference posters: 35; **h-index: 19** (Web of Science), **21** (Google Scholar); i10-index: 12 (Google Scholar); citations: 850 (Web of Science), 977 (Google Scholar)

### Scientific articles (2019-2022)

1. Fully carboxy-functionalized polyhedral silsesquioxanes as polar fillers to enhance the performance of dielectric silicone elastomers; M. Dascalu, A.-C. Stoica, A. Bele, L. Yu, D. Ionita, A.-L. Vasiliu, A. Ladegaard Skov, C. Racles, M. Cazacu; *Polymer* 289, 126492 (2023) (FI2023 = 4.6) (QFI = Q1) (AIS2022 = 0.601) (QAIS = Q2)
2. Biomaterials based on chitosan and polyvinyl alcohol as a drug delivery system with wound-healing effects; S.P. Gherman, G. Biliuta, A. Bele, A.M. Ipate, R.I. Baron, L. Ochiuz, A.F. Spac, D.E. Zavastin; *Gels* 9(2), 122 (2023) (FI2023 = 4.6) (QFI = Q1) (AIS2022 = 0.626) (QAIS = Q1)

3. Xanthan or esterified xanthan/cobalt ferrite-lignin hybrid materials for methyl blue and basic fuchsin dyes removal: equilibrium, kinetic and thermodynamic studies; I. Apostol, N. Anghel, F. Doroftei, A. Bele, I. Spiridon; *Materials Today Chemistry* 27, 101299 (2023) (FI2023 = 7.3) (QFI = Q1) (AIS2022 = 1.045) (QAIS = Q1)
4. Enhancing natural polymers-based materials using montmorillonite: preparation, characterization, and environmental applications; I. Spiridon, A. Bele, I. Apostol, M.V. Dinu, N. Anghel; *Journal of Polymers and the Environment* <https://doi.org/10.1007/s10924-023-03089-1> (2023) (FI2023 = 5.3) (QFI = Q2) (AIS2022 = 0.526) (QAIS = Q2)
5. Emulsion gels as precursors for porous silicones and all-polymer composites-a proof of concept based on siloxane stabilizers; C. Racles, A. Bele, A.L. Vasiliu, L. Sacarescu; *Gels* 8(6), 377 (2022) (FI2023 = 4.6) (QFI = Q1) (AIS2022 = 0.626) (QAIS = Q1)
6. Binary silicone elastomeric systems with stepwise crosslinking as a tool for tuning electromechanical behavior; A. Bele, L. Yu, M. Dascalu, D. Timpu, L. Sacarescu, C.D. Varganici, D. Ionita, D. Isac, A.L. Vasiliu; *Polymers* 14, 2111/1- 13 (2022) (FI2023 = 5.0) (QFI = Q1) (AIS2022 = 0.606) (QAIS = Q1)
7. Catalyst-free crosslinked sustainable functional silicones by supramolecular interactions; B.I. Ciubotaru, M. Dascalu, M.F. Zaltariov, A.M. Macsim, M. Damoc, A. Bele, C. Tugui, C.D. Varganici, M. Cazacu; *Reactive and Functional Polymers* 181, 105419/1-19 (2022) (FI2023 = 5.1) (QFI = Q1) (AIS2022 = 0.534) (QAIS = Q2)
8. From passive to emerging smart silicones; M. Cazacu, M. Dascalu, G.T. Stiubianu, A. Bele, C. Tugui, C. Racles; *Reviews in Chemical Engineering* 1–63 (2022) (FI2023 = 4.7) (QFI = Q2) (AIS2022 = 1.014) (QAIS = Q1)
9. Octakis(carboxyalkylthioethyl)silsesquioxanes and derived metal complexes: Synthesis, characterization and catalytic activity assessments; M. Dascalu, A.C. Stoica, A. Bele, A.M. Macsim, A. Bargan, C.D. Varganici, G.T. Stiubianu, C.Racles, S. Shova, M. Cazacu; *Journal of Inorganic and Organometallic Polymers and Materials* 32, 3955-3970 (2022) (FI2023 = 4.0) (QFI = Q2) (AIS2022 = 0.355) (QAIS = Q3)
10. Bioinspired polymer materials for thermal management of heating and cooling in buildings- ID-166; G. Știubianu, M. Cazacu, C. Racleş, M. Dascălu, A. Bargan, A. Bele, C. Țugui, C. Ursu; 9th European Conference on Renewable Energy Systems, ECRES 2021, 21-23 aprilie, ISBN Number: 978-605-86911-9-3, (2021)