



Dr. George T. Stiubianu

Research Assistant

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Brainmap codes: (UEFISCDI ID (UEF-iD): **U-1700-031U-0887**)

Research topics

Dielectric elastomer transducers for actuators, energy harvesting devices; electrical, mechanical and electromechanical properties of dielectric elastomers, hybrid and nanocomposite materials, synthesis and chemical modification of polymers.

Specialist in the field of chemical engineering, in the fields of organic/inorganic polymer chemical synthesis for development of new synthetic materials with applications in actuation and radiation modulation (with a focus on solid state wave energy harvesting, as well as bio-inspired sensing and thermal comfort). The developed materials are intended for application in next-generation renewable energy harvesting platforms and highly efficient thermal management.

More than 15 years of research experience in preparation of functional nanocomposites, with expertise in nanocomposites, materials science, polymers chemistry as well as diverse industry-drawn experience and industry-oriented postdoctoral research on polymer-based nanocomposites, with hands-on experience as process engineer in multiple industrial projects focused on: pulp and paper manufacturing, large-scale commercial printing, construction, textile and dyes, and polymer 3D printing. Expertise in the following areas of research: - polymer synthesis, with focus on synthetic silicones; - nanocomposite materials with natural polymers (cellulose, lignin), synthetic polymers and nanoparticles; - materials characterization using multiple spectroscopic methods; - synthesis and testing of dielectric elastomers for actuation, composite materials with silicones, and hybrid/composite materials with natural polymers and synthetic polymers.

Scientific research

Author and co-author of **38 ISI articles**, **2 book chapters**, **3** articles in proceedings, **4** patent applications, **30** posters, **26** oral communications, 1 silver medal at international conference INVENTICA, member in **15 research national/international grants** and DIRECTOR for 1 national grant (Contract type „PED”, PN-III-P2-2.1-PED-2019-1885, „Dynamic Dual Mode Materials for Human Thermal Comfort, Materiale Dinamice Duale pentru Confort Termic Uman, DYMATCO), 854 citations (HI = 16).

Visibility

<https://www.brainmap.ro/george-stiubianu>; <https://orcid.org/0000-0002-8439-7089> ;
<https://www.webofscience.com/wos/author/record/AAB-7450-2019> ;
https://scholar.google.com/citations?hl=en&user=pFVW3csAAAAJ&view_op=list_works&sortby=pubdate ;

SELECTED RELEVANT SCIENTIFIC ARTICLES

1. Bele, A.; Dascalu, M.; Tugui, C.; Stiubianu, G.-T.; Varganici, C. D.; Racles, C.; Cazacu, M.; Skov A. L. Soft silicone elastomers exhibiting large actuation strains, *J. Appl. Polym. Sci.*, **2022**, 139, 52261, <https://doi.org/10.1002/app.52261>, IF = 3.125.
2. Dascalu, M.; Stoica, A. C.; Bele, A.; Macsim, A. M.; Bargan, A.; Varganici, C. D.; Stiubianu, G. T.; Racles, C.; Shova, S.; Cazacu, M. Octakis(Carboxyalkyl-Thioethyl)Silsesquioxanes and

Derived Metal Complexes: Synthesis, Characterization and Catalytic Activity Assessments. *J. Inorg. Organomet. Polym.*, **2022**, <https://doi.org/10.1007/s10904-022-02408-8> , IF = 3.543.

3. Ciubotaru, B.-I.; Zaltariov, M. F.; Tugui, C.; Stoleru, I.-E.; Peptanariu, D.; **Stiubianu, G. T.**; Vornicu, N.; Cazacu, M. Silicones with different crosslinking patterns: assessment from the perspective of their suitability for biomaterials, *Surf. Interfaces*, **2022**, 7, 102168, <https://doi.org/10.1016/j.surfin.2022.102168> , IF = 1.607.
4. **Stiubianu, G. T.**; Bele, A.; Grigoras, M.; Tugui, C.; Ciubotaru, B.-I.; Zaltariov, M. F.; Borza, F.; Bujoreanu, L.-G.; Cazacu, C. Scalable Silicone Composites for Thermal Management in Flexible Stretchable Electronics, *Batteries*, **2022**, 8, 95, <https://doi.org/10.3390/batteries8080095> , IF = 4.14.
5. **Stiubianu, G. T.**; Bele, A.; Bargan, A.; Potolinca, V. O.; Asandulesa, M.; Tugui, C.; Tiron, V.; Hamciuc, C.; Dascalu, M.; Cazacu, M. All-Polymer Piezo-Composites for Scalable Energy Harvesting and Sensing Devices, *Molecules*, **2022**, 27, 8524, <https://doi.org/10.3390/molecules27238524> , IF = 4.93.
6. Cazacu, M.; Dascalu, M.; **Stiubianu, G. T.**; Bele, A.; Tugui, C.; Racles, C. From passive to emerging smart silicones, *Rev. Chem. Eng.*, **2023**, 39, 941-1003, <https://doi.org/10.1515/revce-2021-0089> , IF = 4.7.