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L I S T A LUCRĂRILOR ȘTIINȚIFICE

A. Teza de doctorat

Catalin Zaharia, Cercetări privind sinteza și aplicațiile unor noi biopolimeri pentru implanturi osoase (Studies regarding the synthesis and applications of new biopolymers for bone implants), Universitatea Politehnica din București, România, Universitatea din Angers, Franța, 211 pagini, 2006 (obținere titlu de Doctor în 2007, respectiv 2009)

B. Cărți si capitole în cărți publicate în ultimii 10 ani

1. Bianca Galateanu, Ariana Hudita, **Catalin Zaharia**, Mihaela-Cristina Bunea, Eugenia Vasle, Mihaela-Ramona Buga, Marieta Costache, Silk-Based Hydrogels for Biomedical Applications. In: Univ.Prof. Dr. Md. Ibrahim H. Mondal (Ed.) Cellulose-Based Superabsorbent Hydrogels. Polymers and Polymeric Composites: A Reference Series, Publisher: Springer International Publishing, 2019, DOI: https://doi.org/10.1007/978-3-319-76573-0_59-1, Print ISBN: 978-3-319-77829-7, Electronic ISBN: 978-3-319-77830-3, 1st Edition, 1859 pages, <https://www.springerprofessional.de/en/silk-based-hydrogels-for-biomedical-applications/16377076>
2. **Catalin Zaharia**, Polymer Solar Cells (pages 101-119) in Laurentiu Fara and Masafumi Yamaguchi, Advanced Solar Cell Materials, Technology and Simulation, IGI Global, 2013. 1-354. Web. 11 Nov. 2012. doi:10.4018/978-1-4666-1927-2
3. Doina Dimonie, Radu Socoteanu, Simona Pop, Irina Fierascu, Radu Fierascu, Celina Petre, **Catalin Zaharia**, Marius Petrache, "Overview on Mechanical Recycling by Chain Extension of POSTC-PET Bottles" in "Materials Recycling - Trends and Perspectives", InTech Publishing House, March 2012, hardcover 406 p, ISBN 978 - 953 - 51 - 0327 - 1
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6. Teodora Zecheru, **Catalin Zaharia**, Corneliu Cincu, „Aditivi utilizati in prelucrarea polimerilor (Additives for polymer processing)", Ed. Politehnica Press Bucharest, 2008, ISBN: 978-606-515-003-4
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1. Mirela Violeta Șerban, Simona-Rebeca Nazarie (Ignat), Sorina Dinescu, Ionuț-Cristian Radu, **Cătălin Zaharia**, Elena-Alexandra Istrătoiu, Eugenia Tănasă, Hildegard Herman, Sami Gharbia, Cornel Baltă, Anca Hermenean, and Marieta Costache, Silk Proteins Enriched Nanocomposite Hydrogels Based on Modified MMT Clay and Poly(2-hydroxyethyl methacrylate-co-2-acrylamido-2-methylpropane Sulfonic Acid) Display Favorable Properties for Soft Tissue Engineering, *Nanomaterials*, 12(3), 503, 2022, <https://doi.org/10.3390/nano12030503>
2. Y.O. Mezhuev, M.V. Motyakin, I. Yu. Vorobev, I.V. I.V.Plyushchii, A.L. Luss, I.S. Ionova, A.L. Kovarskii, Yu Cai, M.I. Shtilman, A.M.Tsatsakis, **C. Zaharia**, Yu.V. Korshak, EPR monitoring of aniline polymerization: Kinetics and reaction mechanism, *Synthetic Metals*, 280, 116871, 2021, <https://doi.org/10.1016/j.synthmet.2021.116871>
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4. Ariana Hudita, Ionut-Cristian Radu, **Catalin Zaharia**, Andreea Cristina Ion, Octav Ginghina, Bianca Galateanu, Luminita Marutescu, Florin Grama, Aristidis Tsatsakis, Leonid Gurevich, Marieta Costache, Bio- and Hemo-Compatible Silk Fibroin PEGylated Nanocarriers for 5-Fluorouracil Chemotherapy in Colorectal Cancer: In Vitro Studies, *Pharmaceutics*, 13(5), 755, 2021, <https://doi.org/10.3390/pharmaceutics13050755>
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D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)

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9. Ariana Hudita, Ionut Cristian Radu, **Catalin Zaharia**, Octav Ginghina, Bianca Galateanu, Marieta Costache, 5-FU Delivery through Biocompatible SF/PEG Nanoshuttles Modulates Colorectal Cancer Cells Migration and Invasion Potential and Alters the Inflammatory Cytokines Expression Profile, Conference: The 1st International Electronic Conference on Pharmaceutics, Section: Nanomedicine for Cancer, 01 December 2020 by MDPI in The 1st International Electronic Conference on Pharmaceutics session Nanomedicine for Cancer, 0.3390/IECP2020-08682 (registering DOI)

E. Brevete obținute în întreaga activitate

1. Procedeu de obtinere de noi bionanocompozite pe baza de argile modificate si polimeri destinate ingineriei tesutului moale, autori **Catalin Zaharia**, Ionut-Cristian Radu, Elena-Alexandra Istratou, Marieta Costache, Simona-Rebeca Ignat, Sorina Dinescu, cerere de brevet nr. A00550/15.09.2021.
2. Platforma 3D cu eliberare controlata pentru terapia cancerului, autori **Catalin Zaharia**, Ionut-Cristian Radu, Eugenia Tanasa, Paul Octavian Stanescu, Bianca Galateanu, Marieta Costache, Ariana Hudita, Anamaria Zaharia, cerere de brevet nr. A/00732, 2020.
3. Model de pansament pe baza de celuloza bacteriana, chitosan si polimeri termosensibili incarcati cu molecule biologice active pentru terapia ranilor, Paul Octavian Stanescu, **Catalin Zaharia**, Ionut-Cristian Radu, Eugenia Tanasa, Angela Casarica, Bianca Galateanu, Marieta Costache, Ariana Hudita, Anita-Laura (Radu) Chiriac, cerere de brevet nr. A/00766, 2020.
4. Biocompozite pe baza de fibroina din matase naturala si nanoparticule magnetice cu aplicatii in ingineria tesutului osos si procedeu de obtinere a acestora, autori **Catalin Zaharia**, Bianca Galateanu, Eugenia Vasile, Paul Octavian Stanescu, brevet national acordat RO 133130/2021
5. Membrane compozite bioactive eficiente in tratamentul diferitelor afectiuni ale pielii, autori **Catalin Zaharia**, Angela Casarica, Irina Lupescu, Misu Moscovici, Paul Octavian Stanescu, Ana Despina Ionescu, brevet national acordat RO 131872/2019.
6. Compozite polimerice pe baza de polihidroxibutirat si celuloza bacteriana cu aplicatii in ingineria tisulara, si procedeu de obtinere a acestora, autori **Catalin Zaharia**, Paul Octavian Stanescu, Maria C Rapa, Angela Casarica, Irina Lupescu, Bianca Galateanu, brevet national acordat RO 130767/2019

Proiecte (selectie)

P1. Director proiect PCE: Vectori non-virali pe baza de nanoparticule polimerice pentru terapie genica in managementul cancerului (NANOVEC), cod PN-III-P4-ID-PCE-2020-1448, 27PCE/2021, 2021-2023

P2. Responsabil de proiect pentru partenerul UPB: Electrozi hibridi serigrafati pentru detectia si monitorizarea lipopolizaharidelor, Nr. 255PED/2020 (TOXINSENS), perioada de derulare: 2020-2022.

P2. Director proiect TE: Design-ul si caracterizarea unor noi biomateriale pe baza de matrice cu matase naturala si nanoparticule magnetice pentru ingineria tesutului osos (BIOSILKMAG), nr. 3/01.10.2015, perioada de derulare: 2015-2017.

P3. Responsabil de proiect pentru partenerul UPB: Tehnologii si produse inteligente pentru tratamentul si prevenirea mamitelor la rumegatoarele productive bazate pe chimia verde a compozitelor destinate sanatatii publice veterinare (GREENVET), Coordonator proiect: ICECHIM, Autoritate contractanta UEFISCDI, tip proiect PNII-PCCA, Nr. contract 155/2014, Perioada de derulare: 2014-2017.

P4. Responsabil proiect subcomponent 4: Designul, caracterizarea si biovalidarea in vitro a unor nanoparticule coloidale de tip nanohidrogel si nanogeluri compozite in cadrul proiectului complex Materiale inteligente pentru aplicatii medicale (INTELMAT), nr 39PCCDI/2018, perioada de derulare: 2018-2021.

P5. Responsabil proiect subcomponent 5: Nanotehnologii inovative pe baza de polimeri pentru obtinerea de noi materiale avansate (NAPOLI19), nr. 40PCCDI/2018, subproiect 5 Noi materiale durabile pe baza de polimeri regenerabili pentru imprimare 3D, perioada de derulare: 2018-2021

P6. Responsabil proiect subcomponent 3: Abordari inovative avansate pentru medicina regenerativa predictiva (REGMED), nr. 65PCCDI/2018, subproiect 3 Mecanisme celulare si moleculare implicate in

procesele regenerative ale tesuturilor moi, perioada de derulare: 2018-2021

P7. Compozite inovative poliester / celuloza bacteriana pentru inginerie biomedicala - POLYBAC, PNII-PCAA2, 158/2012, CH 39-12-05, UEFISCDI

P8. Materiale hibride de tip polimer-argila poroasa heterostructurata destinate eliberarii controlate a medicamentelor - DELPOCLAY CH 39-12-7, UEFISCDI

P9. Biomateriale macroporoase injectabile bioactive pentru regenerare osoasa - SmartBIMBBone, PNII-PCCA2, 183/2012, CH 39-12-04, UEFISCDI

P10 Sinteza etilbenzenului din benzen și bioetanol - Proiect SPIN OFF nr.839 prin programul POS SCCE – Axa II, Operațiunea 2.3.1, nr. 281/26.11.2010

P11. Coordonator calitate proiect Sisteme de invatare bazate pe munca prin burse antreprenor pentru doctoranzi si postdoctoranzi (SIMBA), Contract nr. 51668/09.07.2019

P12. Expert colectare date CDI proiect Sustinerea cresterii capacitatii institutionale de cercetare a Universitatii Politehnica Bucuresti (CRESCDI), Contract nr.25PFE din 17.10.2018

P13. ETL (Expert pe termen lung) – Expert monitorizare grup tinta in proiectul " Performanță sustenabilă în cercetarea doctorală și postdoctorală - PERFORM", POSDRU/159/1.5/S/138963

P14. ETS (expert pe termen scurt - Expert monitorizare activitate doctoranzi N3 in proiectul „Cunoastere, inovare si dezvoltare prin burse doctorale (CID-Doc)"/ POSDRU/187/1.5/S/155536.