

PERSONAL INFORMATION **Rodica Paula Turcu**



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Sex Female | Date of birth 14/09/1956 | Nationality Romanian

WORK EXPERIENCE

- From 2005 - to present **Senior researcher I / Leader of the Research Team „Multifunctional materials and biologically active compounds”**
 National Institute for Research and Development of Isotopic and Molecular Technologies, 67-103 Donat Street, 400293 Cluj-Napoca, Romania; www.itim-cj.ro
- From 1990 – to 2005 **Senior Researcher (degree III, degree II)**
 National Institute for Research and Development of Isotopic and Molecular Technologies, 67-103 Donat Street, 400293 Cluj-Napoca, Romania; www.itim-cj.ro
- From 1983 – to 1990 **Researcher**
 National Institute for Research and Development of Isotopic and Molecular Technologies, 67-103 Donat Street, 400293 Cluj-Napoca, Romania; www.itim-cj.ro
- From 1980 – to 1983 **Researcher**
 National Institute of Materials Physics, Bucuresti-Magurele, Romania

EDUCATION AND TRAINING

- From 1992 – to 1997 **PhD in Physics**
 University “Babes-Bolyai” Cluj-Napoca, Romania
- From 1975 – to 1980 **Diploma in Engineering Physics**
 Faculty of Physics, University of Bucharest, Romania
- From 1971 – to 1975 **High School “Ienachita Vacarescu”**
 Targoviste, Romania

PERSONAL SKILLS

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|-------------------|---------------|---------|--------------------|-------------------|---------|
| Mother tongue(s) | Romanian | | | | |
| Other language(s) | UNDERSTANDING | | SPEAKING | | WRITING |
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C1 | C1 | C1 | C1 | C1 |
| French | A2 | A2 | A2 | A2 | A2 |

Organisational / managerial skills Good experience in projects managements (18 coordinated research projects); leadership of scientific international cooperations; research team leader

Areas of competence

- Nanostructured composites inorganic nanoparticles-polymers; surface physics and chemistry of magnetic nanoparticles; functionalized core-shell type nanostructures based on magnetic nanoparticles and biocompatible polymers; smart composites based on magnetic nanoparticles and stimuli responsive polymers; micro/nanogels; materials characterization methods (XPS, FTIR, magnetic measurements).

Areas of interest

- Nanostructured polymers and composites;
- Functionalized magnetic nanostructures;
- Stimuli responsive magnetic micro/nanogels;
- Self-assembled nanoparticles systems;
- Nanomedicine, biotechnology.

ADDITIONAL INFORMATION

Publications 109 papers published in scientific journals, mostly in ISI journals, 6 book chapters and many scientific contributions to specialized Congresses and Conferences
h-index: 16 (WoS)

Selected list of recent publications

1. Jürgen Liebscher, Radoslaw Mrowczynski, Holger Scheidt, Claudiu Filip, Niculina Hadade, Rodica Turcu, Attila Bende, Sebastian Beck, *Structure of polidopamine: A never-Ending Story*, Langmuir (2013) 29,10539-10548
2. V. Socoliuc, L. Vekas, R. Turcu “*Magnetically induced phase condensation in an aqueous dispersion of magnetic nanogels*”, Soft Matter 9 3098 (2013)
3. Alexandrina Nan, Joachim Leistner, Rodica Turcu, *Magnetite–polylactic acid nanoparticles by surface initiated organocatalysis ring opening polymerization*, Journal of Nanoparticle Research 15,1869 (2013)
4. IY Tóth, M Szekeres, R Turcu, S Sáringer, E Illés, D Nesztor, E Tombác, *Mechanism of in-situ surface polymerization of gallic acid in an environmental-inspired preparation of carboxylated core-shell magnetite nanoparticles*, Langmuir 30, 15451–15461 (2014)
5. R Turcu, I Craciunescu, VM Garamus, C Janko, S Lyer, R Tietze, Christoph Alexiou, Ladislau Vekas, *Magnetic microgels for drug targeting applications: Physical–chemical properties and cytotoxicity evaluation*, Journal of Magnetism and Magnetic Materials 380, 307–314 (2015)
6. R Turcu, V Socoliuc, I Craciunescu, A Petran, A Paulus, M Franzreb, Eugeniu Vasile, Ladislau Vekas, *Magnetic microgels, a promising candidate for enhanced magnetic adsorbent particles in bioseparation: synthesis, physicochemical characterization, and separation performance*, Soft Matter 11 (5), 1008-1018 (2015)
7. A Petran, R Mrówczyński, C Filip, R Turcu, J Liebscher, *Melanin-like Polydopa Amides–Synthesis and Application in Functionalization of Magnetic Nanoparticles*, Polymer Chemistry 6, 2139–2149 (2015)
8. Crina Socaci, Lidia Magerusan, Rodica Turcu, Jurgen Liebscher, *Developing novel strategies for the functionalization of core–shell magnetic nanoparticles with folic acid derivatives*, Materials Chemistry and Physics 162 (2015) 131-139
9. Alexander Bunge, Lidia Magerusan, Ion Morjan, Rodica Turcu, Gheorghe Borodi, Jurgen Liebscher, *Diazonium salt-mediated synthesis of new amino, hydroxyl, propargyl and maleinimido-containing superparamagnetic Fe@C nanoparticles as platforms for linking bio-entities or organocatalytic moieties*, J. Nanopart. Res. (2015) 17:379
10. E. Tombacz, R. Turcu, V. Socoliuc, L. Vekas, *Magnetic iron oxide nanoparticles: Recent trends in design and synthesis of magneto-responsive nanosystems*, Biochemical and Biophysical Research Communications 468(3), 442-453 (2015)

11. Alexandrina Nan, Teodora Radu, Rodica Turcu, *Poly(glycidyl methacrylate)-functionalized magnetic nanoparticles as platforms for linking functionalities, bioentities and organocatalysts*, RSC Advances 6 (2016) 43330-43338
12. M Cîrcu, A Nan, G Borodi, J Liebscher, R Turcu*, *Refinement of Magnetite Nanoparticles by Coating with Organic Stabilizers*, Nanomaterials 6 (12), 228 (2016)
13. A Petran, T Radu, B Culic, R Turcu*, *Tailoring the properties of magnetite nanoparticles clusters by coating with double inorganic layers*, Applied Surface Science 390, 1-6 (2016)
14. I Craciunescu, A Petran, J Liebscher, L Vekas, R Turcu*, *Synthesis and characterization of size-controlled magnetic clusters functionalized with polymer layer for wastewater depollution*, Materials Chemistry and Physics 185, 91-97 (2017)
15. M Szekeres, IY Tóth, R Turcu, E Tombácz, *The effect of polycarboxylate shell of magnetite nanoparticles on protein corona formation in blood plasma*, Journal of Magnetism and Magnetic Materials 427, 95-99 (2017)
16. Anca Petran, Teodora Radu, Alexandrina Nan, Diana Olteanu, Adriana Filip, Simona Clichici, Ioana Baldea, Maria Suciuc, Rodica Turcu*, *Synthesis, characterization, and cytotoxicity evaluation of high-magnetization multifunctional nanoclusters*, Journal of Nanoparticle Research 19 (1), 10 (2017)
17. T Radu, C Iacovita, D Benea, R Turcu, *X-Ray Photoelectron Spectroscopic Characterization of Iron Oxide Nanoparticles*, Applied Surface Science 405, 337-343 (2017)
18. Flavia A Martin, Daniel Marconi, Silvia Neamtu, Teodora Radu, Monica Florescu, Rodica Turcu, Claudia Lar, Niculina D Hădade, Ion Grosu, Ioan Turcu, *“Click” access to multilayer functionalized Au surface: A terpyridine patterning example*, Materials Science and Engineering: C 75, 1343-1350 (2017)
19. A.Petran, T. Radu, G. Borodi, A. Nan, M. Suciuc, R. Turcu, *Effects on rare earth doping on multi-core iron oxide nanoparticles properties*, Applied Surface Science 428, 492-499 (2018)
20. M. Cîrcu, T. Radu, A.S. Porav, R. Turcu, *Surface functionalization of Fe₃O₄@SiO₂ core-shell nanoparticles with vinylimidazole-rare earth complexes: synthesis, physico-chemical properties and protein interaction effects*, Applied Surface Science 453, 457-463 (2018)
21. Corina Vasilescu, M. Latikka, K. D. Knudsen, V.M. Garamus, V. Socoliuc, Rodica Turcu, Etelka Tombácz, Daniela Susan-Resiga, R.H.A. Ras, L. Vékás, *High concentration aqueous magnetic fluids: structure, colloidal stability, magnetic and flow properties*, Soft Matter 14, 6648 (2018)
22. A.Bunge, A. S. Porav, G. Borodi, T. Radu, A. Pîrnău, C. Berghian-Grosan, R. Turcu*, *Correlation between synthesis parameters and properties of magnetite clusters prepared by solvothermal polyol method*, Journal of Materials Science 54(4), 2853-2875 (2019)
23. Corina Vasilescu, Anamaria Todea, Alexandrina Nan, Monica Circu, Rodica Turcu, Ioana-Cristina Benea, Francisc Peter, *Enzymatic synthesis of short-chain flavor esters from natural sources using tailored magnetic biocatalysts*, Food Chemistry 296, 1-8 (2019)

Coordinated research projects
Director / Project Responsible
(selection)

1. Project PN-III-P1-1.2-PCCDI-2017-0769, The development in oncology of novel radiopharmaceuticals and nuclear techniques for diagnostic imaging and personalized treatment at molecular level, contract 64/PCCDI, 2018
2. Project PN-III-P1-1.2-PCCDI-2017-0062, New methods of diagnosis and treatment: current challenges and technologic solutions based on nanomaterials and biomaterials, contract 58/PCCDI, 2018
3. Project PN-III-P2-2.1-PED-2016-0168, Recyclable multilayer magnetic biocatalyst for synthesis of natural esters, contract Nr. 5PED/2017
4. Project PN-II-PT-PCCA-2013 "Security paper with embedded magnetic nanoparticles" - (NanoMagSecurityPaper), contract nr. 280/2014
5. Project PN-II-PT-PCCA-2013-4 "Magnetic nanofluid rotating seal systems for high peripheral speeds" (HiSpeedNanoMagSeal)", contract nr.97/2014
6. Project COST - Action TD1402 „Multifunctional Nanoparticles for Magnetic Hyperthermia and Indirect Radiation Therapy" (RADIOMAG)", 2014-2018
7. Project FP7 No. 229335 MAGPRO²LIFE – "Advanced Magnetic nanoparticles deliver smart Processes and Products for Life, FP7-NMP-2008-LARGE-2, 2009-2013
8. Project FP6 –"Nanostructured and Functional Polymer-Based Materials and Nanocomposites" (NANOFUN-POLY) – Network of Excellence (NoE) nr. 500361-2 , Priority 3-NMP, 2004-2008
9. PNII, Program 4: Partnerships in the priority areas; project nr. 71-068/2007, "Biocompatible nanostructured systems based on magnetic nanoparticles and polymers with response to external stimuli", 2007-2010
10. Capacities program Module I - Projects for investment for development of public R&D infrastructure, No contract. 121 CP/1/14.09.2007, "Laboratory for advanced nano magnetism studies"
11. Program CEEEX-Modul 3, "Development of international partnership in order to increase the research visibility and integration in magnetic nanocomposites based on polymers field", 2006-2008
12. Project nr. 12/2005, Program CEEEX-MATNANTECH, „Functionalized nanostructures based on conjugated polymers and their nanocomposites", 2005-2008

Memberships

- Member in the Scientific Council of INCDTIM;
- Member of Romanian Physical Society

Date: June 07, 2019

Dr. Rodica Turcu

