



**Tematica si bibliografia pentru concursul de admitere  
la studii universitare de doctorat,  
anul universitar 2021 – 2022**

1. Implicatii biologice si farmaceutice ale elementelor esentiale.
2. Profilul bioanorganic al ionilor lantanidelor si al unor combinatii generate de acestia.
3. Compusi ai lantanidelor utilizati ca remedii homeopate.
4. Combinatii ale elementelor tranzitionale utilizate in terapie ca surse de biocationi esentiali.
5. Structuri macrociclice tetrapirolice cu profil de marker si agent antitumoral.
6. Nanoparticule anorganice utilizate ca vectori in transportul substantelor active antitumorale.
7. Compusi tetrapirolici de sinteza utilizati in terapia antimicrobiana.
8. Legaturi chimice in combinatiile anorganice.
9. Tehnici de evaluare structurala si spectrala pentru compusii de sinteza cu potential biomedical.
10. Metode de evaluare primara a potentialului citotoxic al compusilor de sinteza cu aplicabilitate biomedicala.

**Bibliografie**

1. R. Boscencu, V. Nacea, *Chimie Anorganica Descriptiva*, Ed. Univ. „Carol Davila”, Bucuresti, 2013.
2. M. Kohlmeier, *Nutrient Metabolism*, Chapter 11, Academic Press, 2015.
3. S. A. Cotton, J. M. Harrowfield, *Lanthanides in Living Systems*, in the Encyclopedia of Inorganic and Bioinorganic Chemistry, John Wiley & Sons, Ltd., 2012.
4. J. A. Cotruvo, *The Chemistry of Lanthanides in Biology: Recent Discoveries, Emerging Principles and Technological Applications*, ACS Central Science, 5, 1496, 2019.
5. G. Manda, M. E. Hinescu, I. V. Neagoe, L.F.V. Ferreira, R. Boscencu, P. Vasos, S. H. Basaga, A. Cuadrado, *Emerging Therapeutic Targets in Oncologic Photodynamic Therapy*, Current Pharmaceutical Design, 24, 5268, 2018.



6. R. P. Socoteanu, R. Boscencu, A. Hirtopeanu, G. Manda, A. S. Oliveira, M. Ilie, L. F. Vieira Ferreira, *Trends in Interdisciplinary Studies Revealing Porphyrinic Compounds Multivalency Towards Biomedical Application*, in *Biomedical Engineering - From Theory to Applications*, Reza Fazel (Ed.), InTech Open, Chapter 15, 355, 2011.
7. D. Gao, X. Guo, X. Zhang, et. al., *Multifunctional phototheranostic nanomedicine for cancer imaging and treatment*, *Materials Today Bio*, 5, 100035, 2020.
8. H. Montaseri, C.A. Kruger, H. Abrahamse, *Recent Advances in Porphyrin-Based Inorganic Nanoparticles for Cancer Treatment*, *Int. J. Mol. Sci.*, 21, 3358, 2020.
9. T. Amos, M. Bamidele, et al. *Application of Porphyrins in Antibacterial Photodynamic Therapy*, *Molecules*, 24, 13 2456, 2019.
10. V. Nacea, R. Boscencu, *Chimie Anorganica. Baze teoretice*, Ed. Univ. „Carol Davila”, Bucuresti, 2010.
11. M. Iovu, T.O. Nicolescu, *Chimie Organica. Metode experimentale*, Ed. Univ. „Carol Davila”, Bucuresti, 2009.
12. J. R. Lakowicz, *Principles of Fluorescence Spectroscopy*, Third Edition, Springer Science, 2006.
13. F. K. M. Chan, K. Moriwaki, M. J. De Rosa, *Detection of Necrosis by Release of Lactate Dehydrogenase (LDH) Activity*. *Methods Mol. Biol.*, 979, 65, 2013.
14. T. L. Riss, R. A. Moravec, et al., *Cell Viability Assays*. In *Assay Guidance Manual*, Eli Lilly & Company and the National Center for Advancing Translational Sciences: Bethesda, MD, USA, 2016.
15. T. L. Riss, R. A. Moravec, et al. *Cytotoxicity Assays: In Vitro Methods to Measure Dead Cells*. In *Assay Guidance Manual*, Eli Lilly & Company and the National Center for Advancing Translational Sciences: Bethesda, MD, USA, 2019.

**Conducator de doctorat,**  
Prof. Dr. Rica Boscencu