Nume Prenume: BUICA George-Octavian
Gradul didactic: Conferențiar

Instituția unde este titular: Universitatea Națională de Știință și Tehnologie POLITEHNICA din București

Facultatea: Facultatea de Inginerie Chimică și Biotehnologii
Departamentul: Departamentul de Chimie Generală

# L I S T A
## lucrărilor ştiinţifice în domeniul disciplinelor din postul didactic

### A. Teza de doctorat

Buica G.-O., *Sinteza şi caracterizarea de receptori moleculari pentru analiza speciilor minerale*, Bucuresti 2009.

### B. Cărţi si capitole în cărţi publicate în ultimii 10 ani

1.

### C. Lucrări indexate ISI/BDI publicate în ultimii 10 ani

1. Florea, Ciprian V.; Buică, George O.; Pandele, Mădălina A.; Onaş, Andra M.; Voicu, Manuela-Elena; Hanganu, Anamaria; Tecuceanu, Victoriţa; Vasile, Gabriela-Geanina; Devan, Cristian; Stan, Raluca; Raicopol, Matei D.Dual-function sensing platform for Hg(II) based on a redox-active thiosemicarbazone receptor. Journal of Electroanalytical Chemistry, 961(2024) 118251. DOI: 10.1016/j.jelechem.2024.118251, WOS: 001227014000001.
2. Dumitriu, Cristina; Pandele, Andreea Madalina; Mîndroiu, Mihaela Vasilica; Lazar, Oana-Andreea; Popp, Alina; Enachescu, Marius; Buica, George-Octavian. Electrochemical detection of anti-tissue transglutaminase antibody using quantum dots-doped polypyrrole-modified electrode. Microchimica Acta 191(2024), 543, DOI: 10.1007/s00604-024-06620-w, WOS: 001292884400001.
3. Pirvu, Cristian; Prodana, Mariana; Dumitriu, Cristina; Gheboianu, Alexandru-George; Pandele, Andreea Madalina; Enachescu, Marius; Vasile, Gabriela-Geanina; Buica, George-Octavian.Heavy Metal Ion Detection Using TiO2 Nanotubes and Self-Reduced TiO2 Nanotube Electrodes. Applied Sciences (Switzerland) 14 (2024) 11879. DOI:10.3390/app142411879, WOS: 001385545400001.
4. Voicu, M.E.; Ionita, D.; Buica, G.-O.; Draganescu, D.; Anuta, V.; Raduly, F.M.; Demetrescu, I. Characterization of Two Types of Polylactic Acid Coating Loaded with Gentamicin Sulphate Deposed on AZ31 Alloy, Coatings 2023, 13, 1105. [ISI, FI: 3.4, https://doi.org/10.3390/coatings13061105]
5. Matica, O.-T.; Musina, C.; Brotea, A.G.; Ungureanu, E.-M.; Cristea, M.; Isopescu, R.; Buica, G.-O.; Razus, A.C. Electrochemistry of Rhodanine Derivatives as Model for New Colorimetric and Electrochemical Azulene Sensors for the Detection of Heavy Metal Ions, Symmetry 2023, 15, 752. [ISI, FI: 2.7, https://doi.org/10.3390/sym15030752 ]

6. Tenea, Anda-Gabriela; Dinu, Cristina; Buica, George-Octavian, Vasile, Gabriela-Geanina, Electrochemical System for Field Control of $Hg^{2+}$ Concentration in Wastewater Samples, Sensors 23(3), 2023, Article number 1084 [ISI, FI: 3.847, DOI 10.3390/s23031084]
7. Buica, George-Octavian, Pirvu, Cristian; Stanciu, Gabriela, Cu(ii) and Hg(ii) detection under photo-assisted accumulation in an open circuit potential at a polyazulene-EDTA like modified electrode, Analyst 147(21), 2022, 4730 - 4734 [ISI, FI: 5.227, DOI 10.1039/d2an01333a]
8. Voicu, Manuela Elena; Demetrescu, Ioana; Dorobantu, Andrei; Enachescu, Marius; Buica, George-Octavian; Ionita, Daniela, Interaction of Mg Alloy with PLA Electrospun Nanofibers Coating in Understanding Changes of Corrosion, Wettability, and pH, Nanomaterials 12(8), 2022, Article number 1369 [ISI, FI: 5.719, DOI 10.3390/nano12081369]
9. E.-M. Ungureanu, M. Popescu (Apostoiu), G.-L. Tatu (Arnold), L. Birzan, R. Isopescu, G Stanciu, G.-O. Buica, Electrochemical Comparison on New (Z)-5-(Azulen-1-Ylmethylene)-2-Thioxo-Thiazolidin-4-Ones, Symmetry 2021, 13(4), 588 [ISI, FI: 2.713, https://doi.org/10.3390/sym13040588].
10. M.D. Raicopol, A.M. Pandele, C. Dascălu, E. Vasile, A. Hanganu, G.-G. Vasile, I.G. Bugean, C. Pirvu, G. Stanciu, G.-O. Buica, Improving the Voltammetric Determination of Hg(II): A Comparison Between Ligand-Modified Glassy Carbon and Electrochemically Reduced Graphene Oxide Electrodes, Sensors 20(23), 2020, 6799 [ISI, FI: 3.275, doi:10.3390/s20236799]
11. Raicopol, MD; Chira, NA; Pandele, AM; Hanganu, A ; Ivanov, AA; Tecuceanu, V ; Bugean, IG ; Buica, GO, Electrodes modified with clickable thiosemicarbazone ligands for sensitive voltammetric detection of Hg(II) ions, Sensors and Actuators B 313, 2020, 128030 [ISI, FI: 7.1, DOI:10.1016/j.snb.2020.128030, WOS:000526287200011, eISSN: 0925-4005].
12. Buica, GO; Stoian, AB ; Manole, C; Demetrescu, I ; Pirvu, C , Zr/ZrO2 nanotube electrode for detection of heavy metal ions, Electrochemistry Communications 110, 2020, Article Number: 106614 [ISI, FI: 4.333, DOI: 10.1016/j.elecom.2019.106614, WOS:000510855700006, ISSN: 1388-2481]
13. Buica, G.-O.; Ivanov, AA; Lazar, I.G.; Tatu, GL; Omocea, C.; Birzan, L ; Ungureanu, E.-M., Colorimetric and voltammetric sensing of mercury ions using 2,2 '- (ethane-1,2-diylbis((2-(azulen-2-ylamino)-2-oxoethyl)azanediyl)) diacetic acid, Journal of Electroanalytical Chemistry 849, 2019, UNSP 113351 [ISI, FI: 3.807, DOI:10.1016/j.jelechem.2019.113351, WOS:000495482900002, ISSN:1572-6657].
14. Buica, GO ; Stoian, AB ; Ionita, D ; Demetrescu, I, The influence of oxygen amount in oral cavity media on the corrosion behavior of nanostructures formed on anodized Zr , MATERIALS AND CORROSION-WERKSTOFFE UND KORROSION 69 (12) , 2018, 1713-1719 [ISI, FI:1.533, DOI: 10.1002/maco.201810277, WOS:000452197200003, ISSN: 0947-5117]
15. Buica, G.-O.; Lazar, I.G.; Birzan, L ; Lete, C; Prodana, M; Enachescu, M; Tecuceanu, V; Stoian, AB; Ungureanu, E.-M., Azulene-ethylenediaminetetraacetic acid: A versatile molecule for colorimetric and electrochemical sensors for metal ions, Electrochimica Acta 263, 2018, 382-390 [ISI, FI: 5.116, DOI:10.1016/j.electacta.2018.01.059, WOS:000424643900045, ISSN:0013-4686].
16. Vasile, G.G.; Arnold, G.L.; Buica, G.-O.; Diacu, E. ; Ungureanu, E.-M.; Dinu, C., Stripping Voltammetry on a new Modified Glassy Carbon Electrode for Lead Content Determination in Soft Water, Revista de Chimie 69, 2018, 21-26 [ISI, FI: 1.412, WOS:000425369600005, ISSN:0034-7752].

17. Buica, G.-O., Lazar, I-G., Saint-Aman, E., Victorita, T., Dumitriu, C., Anton, A.I., Stoian, A.B, Ungureanu, E.-M., Ultrasensitive modified electrode based on poly(1H-pyrrole-1-hexanoic acid) for Pb(II) detection, Sensors and Actuators B 246, 2017, 434-443 [ISI, FI: 5.667, DOI:10.1016/j.snb.2017.02.112, WOS:000400803700056, ISSN:0925-4005].
18. Buica, GO., Birzan, L., Victorita, T., Razus A.C., Arnold, G.L, Ungureanu, E.-M., Modified Electrodes Based on Poly[(2E)-2-(Azulen-1-ylmethylidene)hydrazine carbothioamide] for Heavy Metal Ions Complexation, Electroanalysis 29, 2017, 93-102 [ISI, FI: 2.851, DOI:10.1002/elan.201600503, WOS:000394995900013, ISSN:1040-0397].
19. Lazar, I.G., Diacu, E., Buica, G.O., Ungureanu, E.M., Arnold, G.L., Birzan, L., The heavy metals sensing based on 2,6-bis(-2-(thiophen-3-yl)vinyl)- 4-(4,6,8-Trimethylazulen-1-yl)pyrylium modified electrodes, Revista de Chimie 68, 2017, 2509-2513 [ISI, FI: 1.412, WOS:000416751800008, ISSN:0034-7752].
20. Arnold G.- L., Lazar I., Ungureanu E.-M., Buica G.-O., L. Birzan, New azulene modified electrodes for heavy metal ions recognition, Bulgarian Chemical Communications 49C, 2017, 205-210 [ISI, FI: 0.242, WOS:000418299200024, ISSN:0324-1130].
21. Lazar I.G., Diacu E., Arnold G.-L., UngureanuE.-M., Buica G.-O., Birzan L., Synthesis and characterization of poly(azulene-thiophene vinyl pyrylium) salt, Bulgarian Chemical Communications 49C, 2017, 227-232 [ISI, FI: 0.242, WOS:000418299200027, ISSN:0324-1130].
22. Pop, M.D.; Brincoveanu, O.; Cristea, M.; Buica, G.-O.; Enachescu, M.; Ungureanu, E.-M., AFM and SEM Characterization of Chemically Modified Electrodes Based on 5-[(azulen-l-yl) methylene]-2-thioxothiazolidin-4-one, Revista de Chimie 68, 2017, 2799-2803 [ISI, FI: 1.412, WOS:000423261900014, ISSN:0034-7752]
23. Lazar, I.G.; Diacu, E.; Ungureanu, E.M.; Buica, G.-O.; Birzan, L.; Arnold, G.L., Modified Electrodes Based On 2,6-Bis((E)-2-(Thiophen-2-Yl) Vinyl)-4-(4,6,8-Trimethylazulen-1-Yl) Pyridine For Heavy Metals Sensing, University Politehnica Of Bucharest Scientific Bulletin Series B-Chemistry And Materials Science 79(3), 2017, 23-36 [ISI, WOS:000416417800003, ISSN:1454-2331]
24. Arnold, GL ; Lazar, IG; Buica, GO; Ungureanu, EM; Birzan, L., New Azulene Based Modified Electrodes For Heavy Metals Sensing,Sensing, University Politehnica Of Bucharest Scientific Bulletin Series B-Chemistry And Materials Science 79(2), 2017, 89-100 [ISI, WOS:000405523600009, ISSN:1454-2331]
25. E. Diacu, G.-O. Buica, I. Chilibon, L. Birzan, G.-L. Arnold, E.-M. Ungureanu, Chemically Modified Electrodes Based on 5-(Azulen-1-yl)methylene)-2-thioxothiazolidin-4-one, Journal of Solution Chemistry, 45, 2016, 1588-1597 [ISI, FI: 1,401, DOI:10.1007/s10953-016-0521-7, WOS:000387360400007, ISSN:0095-9782].
26. G.-O. Buica, M.-L. Soare, G.A. Inel, A.C. Razus, L. Birzan, A. Oprisanu, E.-M. Ungureanu, On the electrochemical behavior of selanyl azulenes, Journal of Solid State Electrochemistry, 20, 2016, 3151-3164 [ISI, FI: 2,509, DOI:10.1007/s10008-016-3371-8, WOS:000386343800024, ISSN:1432-8488].
27. L. Birzan, M. Cristea, C.C. Draghici, V. Tecuceanu, M. Maganu, A. Hanganu, A.C. Razus, G.-O. Buica, E.-M. Ungureanu, Vinylazulenes chromophores: Synthesis and characterization, Dyes and Pigments, 131, 2016, 246-255 [ISI, FI: 3.767, DOI:10.1016/j.dyepig.2016.02.033, WOS:000377823700027, ISSN:0143-7208].

28. L.R. Popescu, M. Iordache, E.-M. Ungureanu, G.-O. Buica, Impact of mercury pollution on soil, surface water and sediment ecosystems in the area of an old mercury mine, Environmental Engineering and Management Journal, 15, 2016, 1087-1091 [ISI, FI: 1,334, WOS:000381274100019, ISSN:1582-9596].
29. G.-O. Buica, L. Birzan, L.R. Popescu, A.A. Ivanov, E.-M. Ungureanu, Thermodynamics of interactions between lead(II) and cadmium(II) ions and azulene-based complexing polymer films, Journal of Solid State Electrochemistry, 20, 2016, 401-411 [ISI, FI: 2,509, DOI:10.1007/s10008-015-3055-9, WOS:000374710100011, ISSN:1432-8488].
30. L.R. Popescu, M. Iordache, L.F. Pascu, E.-M. Ungureanu, G.-O. Buica, Applications of the mathematical model anova in the area of an industrial platform for assessment of groundwater quality, Journal of Environmental Protection and Ecology, 17, 2016, 18-30 [ISI, FI: 0,679, WOS:000375503300003, ISSN:1311-5065].
31. Amarandei, C.-A. Buica, G.-O., Ungureanu, E.-M., Birzan, L., Cristea, M., University Politehnica of Bucharest SCIENTIFIC BULLETIN, 78(2), 2016, 3-12 [ISI, WOS:000417052900001, ISSN:1454-2331].
32. L.R. Popescu, M. Iordache, G.-O. Buica, E.-M. Ungureanu, L.F. Pascu, C. Lehr, Evolution of Groundwater Quality in the Area of Chemical Platform, Revista de Chimie, 66, 2015, 2060-2064 [ISI, FI: 1.412, WOS:000368437100031, ISSN:0034-7752].
33. A.B. Stoian, G.-O. Buica, I. Demetrescu, Polypyrrole Film Architectures Influence on Platinum Nanoparticles Efficiency in Ethanol Electrooxidation, Journal of Applied Polymer Science, 132, 2015, Article Number: 41375 (pg. 1-10) [ISI, FI: 1,901, DOI:10.1002/app.41375, WOS:000342907200040, ISSN:0021-8995].
34. L.-R. Mandoc, K. Gorgy, E.-M. Ungureanu, G.-O. Buica, M. Holzingerc, S. Cosnier, Permeability improvements of electropolymerized polypyrrole films using dissolvable nano-CaCO3 particle templates, Physical Chemistry Chemical Physics 16, 2014, 5052-5055 [ISI, FI: 3.906, DOI:10.1039/c3cp55100h, WOS:000332395700006, ISSN:1463-9076].
35. A.C. Razus, L. Birzan, A. Hanganu, M. Cristea, E.-M. Ungureanu, M.-L. Soare, G.-O. Buica, 1-Phenylselanylazulenes: synthesis and selenium atom oxidation, Monatshefte fur Chemie, 145, 2014, 1999-2009 [ISI, FI: 1,285, DOI:10.1007/s00706-014-1297-3, WOS:000345102300017, ISSN:0026-9247].
36. C.-A. Amarandei, G.-O. Buica, G.A. Inel, L. Birzan, E.-M. Ungureanu, Study of the Complexation of 1,3-diethyl 2-(azulen-1-ylmethylene)propanedioate with Lanthanide Cations, Acta Chimica Slovenica, 61, 2014, 894-899 [ISI, FI: 1,104, WOS:000347142600028, ISSN:1318-0207].
37. G.-O. Buica, E.-M. Ungureanu, L. Birzan, A. C. Razus, L.-R. Mandoc (Popescu), Voltammetric sensing of lead and cadmium using poly(4-azulen-1-yl-2,6-bis(2-thienyl)pyridine) complexing films, Journal of Electroanalytical Chemistry, 693, 2013, 67-72 [ISI, FI: 3.235, DOI:10.1016/j.jelechem.2013.01.034, WOS:000317445800011, ISSN:1572-6657].
38. E.-M. Ungureanu, G.-O. Buica, A. Razus, L. Birzan, R. Weisz, M.-R. Bujduveanu, Electrochemical studies on 4-(azulen-1-yl)-2,6-bis(2-furyl) and 4-(azulen-1-yl)-2,6-bis(2-thienyl)-pyridines, Revista de Chimie, 63(1), 2012, 27-33 [ISI, FI: 1.401, WOS:000300866700007, ISSN:0034-7752].

39. G.-O. Buica, E.-M. Ungureanu, A. Razus, L. Birzan, M.-R. Bujduveanu, Films of Poly(4-azulen-1-yl-2,6-bis(2-thienyl)pyridine) for Heavy Metals Ions Complexation, Electrochimica Acta, 56, 2011, 5028-5036 [ISI, FI: 5.116, DOI:10.1016/j.electacta.2011.03.096, WOS:000291907300016, ISSN:0013-4686].
40. E.-M. Ungureanu, G.-O. Buica, A. Razus, L. Birzan, E.D. Giol, Study on 5-(azulen-1-ylmethylene)-2,2-dimethyl-1,3-dioxane-4,6-diones by electrochemical methods, Monatsh Chem., 142(3), 2011, 243–250 [ISI, FI: 1,285, DOI:10.1007/s00706-011-0445-2, WOS:000288511500005, ISSN:0026-9247].

## D. Lucrări publicate în ultimii 10 anii în reviste şi volume de conferinţe cu referenţi (neindexate)

### - Reviste

| Nr. crt. | Numele si prenumele autorilor | Titlul articolului | Revista/Conferința | Anul |
|---|---|---|---|---|
| 1. | G.-O. Buica, E.-M. Ungureanu, L. Birzan, G.-L. Arnold | Films based on azulene - thiourea - like for heavy metal ions complexation | 16th International Conference on Electroanalysis, ESEAC MMXVI, June 12-16, 2016, Bath, UK | 2016 |
| 2. | G.-L. Arnold , E.-M. Ungureanu, G.-O. Buica, I.-G. Lazar, L. Birzan | Modified Electrodes based on 2-thioxo-5-((4,6,8-trimethylazulen-1-yl)methylen)imidazolidin-4-one for Heavy Metal Ions Detection | The 67th Annual Meeting of the International Society of Electrochemistry: Electrochemistry: from Sense to Sustainability, August 21-26, 2016, The Hague, the Netherlands | 2016 |
| 3. | E.-M. Ungureanu , G.-O. Buica , E. Diacu , L. Birzan , G.-L. Arnold | Azulene-Thiourea-Like Chemically Modified Electrodes for Heavy Metal Ions Detection | The 67th Annual Meeting of the International Society of Electrochemistry: Electrochemistry: from Sense to Sustainability, August 21-26, 2016, The Hague, the Netherlands | 2016 |
| 4. | G.-O. Buica, E. Saint-Aman, E.-M. Ungureanu | VOLTAMMETRIC SENSING OF Pb(II) IONS USING MODIFIED ELECTRODES WITH POLY(HEXANOIC ACID-LIKE) FILMS | 3rd International Conference on Analytical Chemistry, August 28-31, 2016, Iasi, Romania | 2016 |
| 5. | G.-O. Buica, E.-M. Ungureanu | CHARACTERIZATION OF INTERACTIONS BETWEEN Pb(II) AND Cd(II) IONS AND CHEMICALLY MODIFIED ELECTRODES WITH POLYAZULENE-BASED COMPLEXING FILMS | INTERNATIONAL CONFERENCE CHIMIA 2016 “NEW TRENDS IN APPLIED CHEMISTRY”, May 26-28, 2016, Constanta, Romania | 2016 |
| 6. | G.-O. Buica, E. Saint-Aman, E.-M. Ungureanu, I.-G. Lazar | *Pb(II) ions detection using poly(hexanoic acid-like) films* | 21st International Conference of Solid State Ionics, 18-23 Iunie, 2017, Padova, Italia | 2017 |
| 7. | G.-O. Buica, M.D. Raicopol, N.A. Chira | Modified electrodes with thiosemicarbazone receptors for metal ions complexation | 7th Regional Symposium on Electrochemistry for South-East Europe, 27-30 Mai, Split, Croatia | 2019 |
| 8. | G.-O. Buica, M.D. Raicopol, N.A. Chira | Thiosemicarbazone Based Click-Modified Electrodes for Metal Ions Detection | 21st Romanian International Conference on Chemistry and Chemical Engineering, Constanta-Mamaia, ROMANIA - September 4 – 7, 2019 | 2019 |

| | | | | |
|---|---|---|---|---|
| 9. | G.-O. Buica, M.D. Raicopol, N.A. Chira | *GRAPHENE MODIFIED ELECTRODE WITH CLICKABLE THIOSEMICARBAZONE BASED RECEPTOR FOR MERCURY IONS DETECTION* | The 5th International Conference "New Trends on Sensing - Monitoring - Telediagnosis for Life Sciences"- NOMARES Workshop - New materials for electrochemical recognition of inorganic and biological species, 3–4 July 2020, Bucharest, România | 2020 |
| 10. | G.-O. Buica, M.D Raicopol, N.A. Chira | Chemically Modified Electrodes with Clickable Thiosemicarbazones for Metal Ions Sensing | 71st Annual ISE Meeting of the International Society of Electrochemistry, 30 August - 4 September 2020 Belgrade, Serbia | 2020 |
| 11. | G.-O. Buica, G.-L. Tatu (Arnold), E.-M. Ungureanu, G. G. Vasile | Voltammetric Detection of Mercury Ions at Poly(azulene-EDTA)-like Screen Printed Modified Electrodes | Chem. Proc. 2021, 5(1), 23; https://doi.org/10.3390/CSAC2021-10630 | 2021 |

**Data:** **Semnătura:**