



UNIVERSITATEA „VALAHIA” DIN TÂRGOVIȘTE

Facultatea de Științe și Arte

Departamentul de Științe și Tehnologii avansate

adresa: Str. Aleea Sinaia, nr. 13, 130004 Targoviste, Dambovită

Tel 0245.206.101, Fax 0245.217.692

E-mail: stiinte@valahia.ro

Web: www.valahia.ro

LISTA DE LUCRĂRI

Numele **Bumbac Marius**

1. Teza de doctorat

Titlul tezei „Reactivi analitici din clasa liganzilor macrociclici”, Conducător științific: prof. Dr. ing. Constantin Luca, Universitatea Politehnica București; Doctor în domeniul Inginerie Chimică din 26 ianuarie 2007 (data susținerii), ordinul Ministerului Educației și Cercetării nr. 1418 / 29.06.2007, diploma **Seria E Nr. 0004813**.

Titlul tezei în limba engleză „Analytical reagents from the class of macrocyclic ligands”

2. Cărți:

- C1. B.C. Șerban, **M. Bumbac**, I. Schiketanz, M. V. Popescu, C. M. Nicolescu, O. Buiu – *Organic Stereochemistry Basic Concepts & Applications*, Ed. Printech Publishing House, Bucharest, ISBN 978-606-23-0885-8, **2018**, (206 pg.)
- C2. B.C. Șerban, **M. Bumbac**, I. Schiketanz, M. V. Popescu, C. M. Nicolescu, O. Buiu – *Chimie organică. Întrebări și răspunsuri*, Volumul I, Ed. a III-a, revizuită și adăugită, Ed. Printech Publishing House, Bucharest, ISBN 978-606-23-0801-8, București, **2017** / (385 pg.)
- C3. I. Schiketanz, B.C. Șerban, **M. Bumbac**, M. V. Popescu -*Chimie Organică. Întrebări și răspunsuri. Vol I, editia a II-a*”, Ed. Printech Publishing House, ISBN 978-606-23-0801-8, București, 2015 (296 pg.).
- C4. I. Schiketanz, B.C. Șerban, **M. Bumbac**, M. V. Popescu -*”Chimie Organică. Întrebări și răspunsuri. Vol I”* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-23-0801-8, București, 2014 (157 pg.).
- C5. I. Schiketanz, B.C. Șerban, **M. Bumbac**, M. V. Popescu -*”Probleme de chimie organică vol IV – editia a II-a revizuita si adaugita”* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-521-998-4, 2014 (214 pg.).
- C6. I. Schiketanz, B.C. Șerban, **M. Bumbac**, M. V. Popescu -*”Probleme de chimie organică vol IV”* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-521-998-4, 2013 (214 pg.).
- C7. B.C. Șerban, **M. Bumbac**, I. Schiketanz, M. V. Popescu -*”Probleme de chimie organică vol III– editie adaugita si revizuita”* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-521-654-9, 2013 (315 pg.).
- C8. B.C. Șerban, **M. Bumbac**, I. Schiketanz, M. V. Popescu - Probleme de chimie organică vol II – editie adaugita si revizuita – Ed. Printech Publishing House, ISBN 978-606-521-654-9, ISBN 978- 606-521-913-7, 2012.
- C9. B.C. Șerban, **M. Bumbac**, I. Schiketanz - Probleme de chimie organică vol III – Ed. Printech Publishing House, ISBN 978-606-521-855-0, 2011.
- C10. B.C. Șerban, **M. Bumbac**, I. Schiketanz - *Probleme de chimie organică vol II* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-521-654-9, 2011 (220 pg.).
- C11. B.C. Șerban, **M. Bumbac**, I. Schiketanz - *Probleme de chimie organică vol I – editie adaugita si revizuita* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-521-654-9, 2011 (220 pg.).
- C12. B.C. Șerban, **M. Bumbac**, I. Costea - *Probleme de chimie organică vol I* – Ed. Printech Publishing House, Bucharest, ISBN 978-606-521-600-6, 2010 (278 pg.).

2. Capitole în edituri internaționale:

- CC1. B.C. Șerban, **M. Bumbac**, I. Schiketanz, V.R. Lupu, O. Buiu, C.M. Nicolescu, M.V. Popescu – *Organic Chemistry – Questions and Answers, Volume I*, Ed. Printech Publishing House, Bucharest, ISBN 978-606-23-1122-3, **2020**, (166 pg.)
- CC2. C.M. Nicolescu, **M. Bumbac**, C. Radulescu, L.C. Buruleanu, R. L.Olteanu, L.M. Gorghiu, G. Teodorescu, C.G. Holban – *Romanian Organic and Conventional Red Hrapes Vineyards as Potential Sources of High-Added Value Products, in a Circular Economy Approach*, Chapter in Book *Grapes and Wine*, ISBN: 978-1-83969-642- 8– Ed. IntechOpen, London, UK, DOI: 10.5772/intechopen.98972, **2021** (33 pg.)
- CC3. B.C. Șerban, **M. Bumbac**, O. Ionescu, V. Dumitru, M. Brezeanu, O. Buiu, C. Cobianu, **2017**. Quantum Dots versus Dyes in Sensitized Solar Cells: Synthesis, Optimization, Performance. *Science and applications of Tailored Nanostructures*, pp.89-127.
- CC4. C Radulescu, L C Buruleanu, RL Olteanu, CM Nicolescu, **M. Bumbac**, LM Gorghiu, MD Nechifor(Tudorache), *Grape by-products: Potential sources of phenolic compounds for novel functional foods*, Chapter in Book *Functional Food - Upgrading Natural and Synthetic Sources*, ISBN:978-1-83769-087-9, Ed. IntechOpen, London, UK, DOI: 10.5772/intechopen.113386,

2023 (32 pg.)

3. Articole / studii publicate în reviste de specialitate de circulație internațională recunoscute, articole/studii publicate în reviste de specialitate de circulație națională recunoscute, brevete de invenție, creații artistice prezentate la manifestări recunoscute din țară și din străinătate, articole / studii publicate în volumele unor manifestări științifice internaționale recunoscute din țară și din străinătate, articole / studii publicate în volumele unor manifestări științifice naționale, lucrări prezentate la diferite seminarii / expoziții, inovații etc., după caz, prin care se aduc contribuții științifice la dezvoltarea domeniului.

- *Articole/studii de specialitate cotate (cu factor de impact) I.S.I. (S1, S2 etc.), articole/studii indexate I.S.I. (B1, B2 etc.), articole/studii indexate în baze de date internaționale (D1, D2 etc.).*

- S1. Craciun, A., Zaharescu, T., Bumbac, M., Nicolescu, C. M., & Mangalagiu, V. (2026). Chemiluminescence Assessment Of Oxidative Stability In Barium Titanate--Filled Styrene-Based Composites For Medical Applications. *Journal of Science and Arts*, 26(1), 221-230. **ISI-Q4; FI/2024 = 0,3; nu AP/AC; Multidisciplinary Sciences**
- S2. Zaharescu, T., **Bumbac, M.***, Nicolescu, C. M.", Craciun, A., & Mirea, R. (2026). Oxidation Strength of PLA Filled with Algal Biomass and Rosemary Extract Powders for Food-Safe Handling, *Polymers*, 2026, 18(4), 504. <https://doi.org/10.3390/polym18040504>; **ISI-Q1; FI/2024 = 4,9; AC; Polymer Science**
- S3. Serban, B. C., Dumbravescu, N., Bui, O., **Bumbac, M.***, Dumbravescu, C., Brezeanu, M., ... & Brincoveanu, O. (2025). Carbon Nano-Onions–Polyvinyl Alcohol Nanocomposite for Resistive Monitoring of Relative Humidity. *Sensors*, 25(10), 3047. <https://doi.org/10.3390/s25103047>; **ISI-Q2; FI/2024 = 3,5; AC; Chemistry, Analytical, Instruments & Instrumentation**
- S4. Zaharescu, T., **Bumbac, M.***, Nicolescu, C. M.*, Stelescu, M. D., Borbath, T., & Borbath, I. (2025). Evaluation of γ -Irradiation Effects on EPDM/SBS Blends for Durability and Recycling Potential. *Polymers*, 17(10), 1314. <https://doi.org/10.3390/polym17101314>; **ISI-Q1; FI/2024 = 4,9; AC; Polymer Science**
- S5. Serban, B. C., Bui, O., **Bumbac, M.***, Dumbrăvescu, N., Brezeanu, M., Matei-Gabriel, U., ... & Cobianu, C. (2025). Carbon nanohorns and their nanohybrid/nanocomposites as sensing layers for humidity sensors—a review. *Polymers*, 17(16), 2198. <https://doi.org/10.3390/polym17162198>; **ISI-Q1; FI/2024 = 4,9; AC; Polymer Science**
- S6. Mindroiu, V. M., Dumitriu, C., **Bumbac, M.**, & Nicolescu, C. M. (2025). Electrochromic behaviour by lithiation process of nanocomposites based on WO₃ nanofibers/electrochemically reduced TiO₂. *Materials Science and Engineering: B*, 319, 118302. <https://doi.org/10.1016/j.mseb.2025.118302>; **ISI-Q2; FI/2024 = 4,6; nu AP/AC; Materials Science, Multidisciplinary**
- S7. Serban, B.-C., Dumbravescu, N., Bui, O., **Bumbac, M.**, Brezeanu, M., Pachiu, C., Nicolescu, C.-M., Cobianu, C., Romanitan, C., Tucureanu, V., Carbon Nano-Onions-Based Matrix Nanocomposite as Sensing Film for Resistive Humidity Sensor, *Romanian Journal of Information Science and Technology*, 2025, 28 (1), 77–88. <https://doi.org/10.59277/ROMJIST.2025.1.07>; **ISI-Q1; FI/2024 = 3,9; nu AP/AC; Instruments & Instrumentation**
- S8. Serban, B.-C., Dumbravescu, N., Bui, O., **Bumbac, M.***, Brezeanu, M., Pachiu, C., Nicolescu, C.-M., Brancoveanu, O., & Cobianu, C. Holey Carbon Nanohorns-Based Nanohybrid as Sensing Layer for Resistive Ethanol Sensor. *Sensors*, 2025, 25(5), 1299. <https://doi.org/10.3390/s25051299>; **ISI-Q2; FI/2024 = 3,5; AC; Chemistry, Analytical, Instruments & Instrumentation**
- S9. Constantin, M. A., Constantin, L. A., Constantinov, F. D., Badescu, V. R., Nicolescu, C. M., & **Bumbac, M.** Fly Ash Waste Conversion to Zeolite and Its Application for Cd²⁺ and Ni²⁺ Adsorption from Aqueous Solutions. *Water*, 2025, 17(4), 593. <https://doi.org/10.3390/w17040593>; **ISI-Q2; FI/2024 = 3,0; nu AP/AC; Water Resources, Environmental Sciences**
- S10. **Bumbac, M.**, Zaharescu, T., Nicolescu, C.M.*, Borbath, T. and Borbath, I., Chemiluminescence-based evaluation of styrene block copolymers' recyclability. *Scientific Reports*, 2024, 14(1), p.28221. <https://doi.org/10.1038/s41598-024-79193-6>; **ISI-Q1; FI/2024 = 3,9; AP; Multidisciplinary Sciences**
- S11. Serban, B.C., Bui, O., Vescu, N.D., Anu, M.B., Cobianu, C., Pachiu, C., Brancoveanu, O., **Bumbac, M.**, Nicolescu, C.M. and Radulescu, C., Carbon nanohorns–based nanocomposites as sensing layers for room temperature resistive oxygen sensing: preliminary results. *Journal of Science and Arts*, 2024, 24(1), pp.199-210. <https://doi.org/10.46939/J.Sci.Arts-24.1-b02>; **ISI-Q4; FI/2024 = 0,3; nu AP/AC; Multidisciplinary Sciences**
- S12. Serban, B.C., Bui, O., Dumbravescu, N., Brezeanu, M., Cobianu, C., **Bumbac, M.** And Nicolescu, M., Some Considerations about the Sensing Mechanisms and Electrical Response of Carbon Nanohorns–based Gas Sensors. *Romanian Journal Of Information Science And Technology*, 2024, 27(2), pp.137-150. <https://doi.org/10.59277/ROMJIST.2024.2.02>; **ISI-Q1; FI/2024 = 3,9; nu AP/AC; Instruments & Instrumentation**
- S13. Constantin, M.A., Constantin, L.A., Ionescu, I.A., Nicolescu, C.M., **Bumbac, M.** and Tiron, O., Performance of a Solar-Driven Photocatalytic Membrane Reactor for Municipal Wastewater Treatment. *Processes*, 2024, 12(3), p.617. <https://doi.org/10.3390/pr12030617>; **ISI-Q3; FI/2024 = 2,8; nu AP/AC; Engineering, Chemical**
- S14. Serban, B.C., Bui, O., **Bumbac, M.***, Dumbravescu, N., Pachiu, C., Brezeanu, M., Craciun, G., Nicolescu, C.M., Diaconescu, V. and Cobianu, C., Ternary Holey Carbon Nanohorn/Potassium Chloride/Polyvinylpyrrolidone Nanohybrid as Sensing Film for Resistive Humidity Sensor. *Coatings*, 2024, 14(4), p.517. <https://doi.org/10.3390/coatings14040517>; **ISI-Q2; FI/2024 = 2,8; AC; Materials Science, Coatings & Films**
- S15. **Bumbac, M.**, Nicolescu, C.M., Zaharescu, T., Bumbac, C., Manea, E.E., Ionescu, I.A., Gurgu, I.V., Serban, B.C., Bui, O. and Dumitrescu, C., Influence of Biogenic Material Content on the Biodegradability of Styrene-Butadiene Composites with Incorporated *Chlorella vulgaris* Biomass. *Polymers*, 2024, 16(9), p.1241. <https://doi.org/10.3390/polym16091241>; **ISI-Q1; FI/2024 = 4,9; AP; Polymer Science**
- S16. **Bumbac, M.**, Nicolescu, C.M., Zaharescu, T., Gurgu, I.V., Bumbac, C., Manea, E.E., Ionescu, I.A., Serban, B.C., Bui, O. and Dumitrescu, C., 2024. Biodegradation Study of Styrene–Butadiene Composites with Incorporated *Arthrospira platensis* Biomass. *Polymers* 2024, 16, 1218. <https://doi.org/10.3390/polym16091218>; **ISI-Q1; FI/2024 = 4,9; AP; Polymer Science**

- S17. Zaharescu, T., **Bumbac, M.***, and Nicolescu, C.M., 2024. Stability effects of added biomass on microalgae styrene-butadiene-styrene composites. *Journal of Thermal Analysis and Calorimetry*, pp.1-13. <https://doi.org/10.1007/s10973-024-13419-7>; **ISI-Q2; FI/2024 = 3,1; AC; Chemistry, Analytical**
- S18. Manea, E.E., Bumbac, C., Dinu, L.R., **Bumbac, M.** and Nicolescu, C.M., Composting as a sustainable solution for organic solid waste management: current practices and potential improvements. *Sustainability*, **2024**, 16(15), p.6329. <https://doi.org/10.3390/su16156329>; **ISI-Q2; FI/2024 = 3,3; nu AP/AC; Environmental Sciences**
- S19. Zaharescu, T., **Bumbac, M.***, Nicolescu, C.M. and Blanco, I., The contribution of silica nanoparticles to the stability of styrene-isoprene-styrene triblock copolymer (SIS). II. Energetic peculiarities. *Radiation Physics and Chemistry*, **2024**, 215, p.111318. <https://doi.org/10.1016/j.radphyschem.2023.111318>; **ISI-Q2; FI/2024 = 3,3; AC; Chemistry, Physical**
- S20. Serban, B.C., Dumbravescu, N., Buiiu, O., **Bumbac, M.**, Pachiu, C., Brezeanu, M., Craciun, G., Nicolescu, C.M., Marinescu, R. and Cobianu, C., 2024, October. Carbon Nanohorns-PVP Nanocomposite As Sensing Layer For Resistive Humidity Monitoring: Preliminary Results. In *2024 International Semiconductor Conference (CAS) 2024* (pp. 39-42). IEEE. <https://doi.org/10.1109/CAS62834.2024.10736867>; **ISI Proceedings; FI/2024 = 0; nu AP/AC**;
- S21. Serban, B.C., Dumbravescu, N., Buiiu, O., **Bumbac, M.**, Brezeanu, M., Pachiu, C., Nicolescu, C.M. and Diaconescu, V., 2024, October. Resistive Humidity Sensor Based on Onion-Like Carbon-PVA Composite Sensing Film. In *2024 International Semiconductor Conference (CAS) 2024* (pp. 65-68). IEEE. <http://dx.doi.org/10.1109/CAS62834.2024.10736692>; **ISI Proceedings; FI/2024 = 0; nu AP/AC**;
- S22. Stănescu, S.G., Nicolescu, C.M., Bumbac, M., Olteanu, R.L. and Gurgu, I.V., Economic Evaluation of Microalgae Production Costs: A Perspective on Sustainable Development. Springer Proceedings in Business and Economics Pages 215 - 234 2024 13th Griffiths School of Management and IT Annual Conference on Business, Entrepreneurship and Ethics, *GSMAC 2023 Springer Proceedings in Business and Economics*, **2024**, pp. 215–234 https://link.springer.com/chapter/10.1007/978-3-031-59858-6_15; **ISI Proceedings; FI/2024 = 0; nu AP/AC**;
- S23. Nicolescu, C.M., **Bumbac, M.***, Radulescu, C., Buruleanu, C.L., Olteanu, R.L., Stănescu, S.G., Gorghiu, L.M., Serban, B.C. and Buiiu, O., 2023. Phytochemical Statistical Mapping of Red Grape Varieties Cultivated in Romanian Organic and Conventional Vineyards. *Plants*, **2023**, 12(24), p.4179. <https://doi.org/10.3390/plants12244179>; **ISI-Q1; FI/2024 = 4,1; AC; Plant Sciences**
- S24. **Bumbac, M.**, Nicolescu, C.M., Olteanu, R.L., Gherghinoiu, S.C., Bumbac, C., Tiron, O., Manea, E.E., Radulescu, C., Gorghiu, L.M., Stănescu, S.G., Serban, B.C., Buiiu, O. Preparation and Characterization of Microalgae Styrene-Butadiene Composites Using Chlorella vulgaris and Arthrospira platensis Biomass. *Polymers* **2023**, 15, 1357. <https://doi.org/10.3390/polym15061357>; **ISI-Q1; FI/2024 = 4,9; AP; Polymer Science**
- S25. Nicolescu, C.M., **Bumbac, M.***, Buruleanu, C.L.*, Popescu, E.C., Stănescu, S.G., Georgescu, A.A., Toma, S.M. Biopolymers Produced by Lactic Acid Bacteria: Characterization and Food Application. *Polymers* **2023**, 15, 1539. <https://doi.org/10.3390/polym15061539>; **ISI-Q1; FI/2024 = 4,9; AC; Polymer Science**
- S26. Olteanu, R.L., Radulescu, C., Bretcan, P., Zinicovscaia, I., Culicov, O., Vergel, K., Tanislav, D., **Bumbac, M.**, Nicolescu, C.M., Dulama, I.D., Gorghiu, L.M. Geochemical Responses to Natural and Anthropogenic Settings in Salt Lakes Sediments from North-Eastern Romanian Plain. *Int. J. Environ. Res. Public Health* **2023**, 20, 935. <https://doi.org/10.3390/ijerph20020935>; **ISI-Q2; FI/2021 = 4,614; nu AP/AC; Environmental Sciences**
- S27. Serban, B.C., Dumbravescu, N., Buiiu, O., **Bumbac, M.**, Brezeanu, M., Cobianu, C., Marinescu, R., Pachiu, C., Avramescu, V., Nicolescu, C.M. and Comanescu, F., October. Quaternary Oxidized Carbon Nanohorns-Based Nanohybrid as Sensing Layer for Room Temperature Resistive Ethanol Sensing. In *2023 International Semiconductor Conference (CAS) 2023*, (pp. 67-70). IEEE. <https://doi.org/10.1109/CAS59036.2023.10303659>; **ISI Proceedings; FI/2024 = 0; nu AP/AC**;
- S28. Serban, B.C., Dumbravescu, N., Buiiu, O., **Bumbac, M.**, Brezeanu, M., Cobianu, C., Marinescu, R., Pachiu, C., Avramescu, V. and Nicolescu, C.M., October. Oxidized Carbon Nanohorns/KCl/PVP Nanohybrid as Sensing Layer for Chemiresistive Humidity Sensor. In *2023 International Semiconductor Conference (CAS) 2023*, (pp. 75-78). IEEE. <https://doi.org/10.1109/CAS59036.2023.10303649>; **ISI Proceedings; FI/2024 = 0; nu AP/AC**;
- S29. Radulescu, C., Tanase, M.N., Chilian, A., Popescu, I.V., Bancuta, O.R., Dulama, I.D., **Bumbac, M.**, Nicolescu, C.M., Olteanu, R.L. and Bucurica, I.A., Associated health risks from heavy metal-laden influent/effluent from wastewater treatment plant, *Journal of Science and Arts*, **2022**, 22(3), pp.693-710. <https://doi.org/10.46939/J.Sci.Arts-22.3-b01>; **ISI-Q4; FI/2024 = 0,3; nu AP/AC; Multidisciplinary Sciences**
- S30. Radulescu, C., Olteanu, R.L., Nicolescu, C.M., **Bumbac, M.**, Buruleanu, L.C., Holban, G.C. Vibrational Spectroscopy Combined with Chemometrics as Tool for Discriminating Organic vs. Conventional Culture Systems for Red Grape Extracts. *Foods*, **2021**, 10, 1856. <https://doi.org/10.3390/foods10081856>; **ISI-Q1; FI/2024 = 5,1; nu AP/AC; Food Science & Technology**
- S31. Serban, B.C., Cobianu, C., Buiiu, O., **Bumbac, M.***, Dumbravescu, N., Avramescu, V., Nicolescu, C.M.*, Brezeanu, M., Radulescu, C., Craciun, G., Romanitan, C., Comanescu, F. Quaternary Oxidized Carbon Nanohorns—Based Nanohybrid as Sensing Coating for Room Temperature Resistive Humidity Monitoring. *Coatings* **2021**, 11, 530. <https://doi.org/10.3390/coatings11050530>; **ISI-Q3; FI/2024=2,8; AC; Materials Science, Coatings & Films**
- S32. Serban B.C., Buiiu O., Dumbravescu N., Cobianu C., Avramescu V., Brezeanu M., **Bumbac M.**, Pachiu C., Nicolescu C.M., Oxidized Carbon Nanohorn - Hydrophilic Polymer Nanocomposite as the Resistive Sensing Layer for Relative Humidity, *Analytical Letters*, **2021**, 54:3, 527-540. <https://doi.org/10.1080/00032719.2020.1772805>; **ISI-Q3; FI/2024 = 1,8; nu AP/AC; Chemistry, Analytical**
- S33. Serban, B.C., Cobianu, C., Dumbravescu, N., Buiiu, O., **Bumbac, M.**, Nicolescu, C.M., Cobianu, C., Brezeanu, M., Pachiu, C. and Serbanescu, M., 2021. Electrical percolation threshold and size effects in polyvinylpyrrolidone-oxidized single-wall carbon nanohorn nanocomposite: The impact for relative humidity resistive sensors design. *Sensors*, 21(4), p.1435. <https://doi.org/10.3390/s21041435>; **ISI-Q2; FI/2024 = 3,5; nu AP/AC; Chemistry, Analytical, Instruments & Instrumentation**

- S34. Serban, B.C.*, Cobianu, C., Buiu, O.*, **Bumbac, M.***, Dumbravescu, N., Avramescu, V., Nicolescu, C.M., Brezeanu, M., Pachiu, C., Craciun, G., Radulescu, C. Ternary Nanocomposites Based on Oxidized Carbon Nanohorns as Sensing Layers for Room Temperature Resistive Humidity Sensing. *Materials* **2021**, 14, 2705. <https://doi.org/10.3390/ma14112705>; **ISI-Q23; FI/2024 = 3,2; AC; Chemistry, Physical**
- S35. Serban, B.C.*, Cobianu, C., Buiu, O.*, **Bumbac, M.***, Dumbravescu, N., Avramescu, V., Nicolescu, C.M., Brezeanu, M., Radulescu, C., Craciun, G. and Romanitan, C., **2021**. Quaternary Holey Carbon Nanohorns/SnO₂/ZnO/PVP Nano-Hybrid as Sensing Element for Resistive-Type Humidity Sensor. *Coatings*, 11(11), p.1307. <https://doi.org/10.3390/coatings11111307>; **ISI-Q3; FI/2024=2.8; AC; Materials Science, Coatings & Films**
- S36. Serban, B.C., Buiu, O., **Bumbac, M.**, Dumbravescu, N., Avramescu, V., Brezeanu, M., Radulescu, C., Craciun, G., Nicolescu, C.M., Romanitan, C. and Comanescu, F., **2021**. Ternary Holey Carbon Nanohorns/TiO₂/PVP Nanohybrids as Sensing Films for Resistive Humidity Sensors. *Coatings*, 11(9), p.1065, WOS:000699432300001. <https://doi.org/10.3390/coatings11091065>; **ISI-Q3; FI/2024=2.8; nu AP/AC; Materials Science, Coatings & Films**
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➤ **Premii / distinctii in cadrul unor manifestări interne și internaționale**

1. **Gold medal** for B. C. Serban, O. Buiu, **M. Bumbac**, C. M. Nicolescu, *Formaldehyde chemiresistive sensor*, Romanian Patent Application A00358, RO, OSIM, 10.07.2023 Romania, 16th Edition of Euroinvent European Exhibition of Creativity and Innovation, Iasi, Romania, **2024**
2. **Diploma of excellence** for B. C. Serban, O. Buiu, **M. Bumbac**, C. M. Nicolescu, *Formaldehyde resistive sensor*, Romanian Patent Application A00359, RO, OSIM, 10.07.2023, Proceedings of the 16th Edition of Euroinvent European Exhibition of Creativity and Innovation, Iasi, Romania, **2024**
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5. **Diploma of excellence** from national R&D Institute for Optoelectronics INOE 2000, Magurele, Romania for B. C. Serban, O. Buiu, **M. Bumbac**, C. M. Nicolescu, *Matrix nanocomposite for surface acoustic waves NO₂ sensor*, Romanian Patent Application A00361, RO, OSIM, 10.07.2023, 16th Edition of Euroinvent European Exhibition of Creativity and Innovation, Iasi, Romania, **2024**
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11. **Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, **Formaldehyde resistive sensor**, Romanian Patent Application A00359, RO, OSIM, 10.07.2023, International Exhibition of Inventions and innovations Traian Vuia, June 13- 15, 2024,

6. **24. Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, **Matrix nanocomposite for surface acoustic waves NO₂ sensor**, Romanian Patent Application A00361, RO, OSIM, 10.07.2023, International Exhibition of Inventions and innovations Traian Vuia, June 13- 15, 20204, ISBN 978-606-785-273-8, pp.52
7. **25. Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, **Nanocarbonic matrix for NO₂ sensor with surface acoustic waves**, Romanian Patent Application A00360, RO, OSIM, International Exhibition of Inventions and innovations Traian Vuia, June 13- 15, 2024
8. **30. Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, *Senzor rezistiv pentru monitorizarea umidității relative*, A100356, RO, OSIM, 23.06.2022, International Exhibition of Inventions and innovations Traian Vuia, June 13- 15, 2024
9. **32. Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, *Matrix nanocomposite for surface acoustic waves NO₂ sensor*, Romanian Patent Application A00361, RO, OSIM, 10.07.2023, International Salon of Invention and Innovative Entrepreneurship, Chisinau, may 16-17, 2024
10. **33. Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, *Nanocarbonic matrix for NO₂ sensor with surface acoustic waves*, Romanian Patent Application A00360, RO, OSIM, International Salon of Invention and Innovative Entrepreneurship, Chisinau, May 16-17, 2024
11. **34. Silver medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, *Formaldehyde resistive sensor*, Bogdan-Cătălin Serban, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu Romanian Patent Application A00359, RO, OSIM, 10.07.2023, International Salon of Invention and Innovative Entrepreneurship, Chisinau, May 16-17, 2024
12. **35. Gold medal for Bogdan-Cătălin Serban**, Octavian Buiu, Marius Bumbac, Cristina Mihaela Nicolescu, *Formaldehyde chemiresistive sensor*, Romanian Patent Application A00358, RO, OSIM, 10.07.2023 Romania, International Salon of Invention and Innovative Entrepreneurship, Chisinau, May 16-17, 2024
13. **36. Gold medal for Bogdan-Cătălin Serban**, Marius Bumbac, Iosif Schiketanz, Valentin- Razvan Lupu, Octavian Buiu, Cristina Mihaela Nicolescu, Mihai Viorel Popescu, *Organic chemistry, questions and answers*, ISBN 978-606-23-1121-6, Editura Printech, 2020
14. **37. Gold medal for Bogdan-Catalin Serban**, Marius Bumbac, Iosif Schiketanz, Mihai- Viorel Popescu, Cristina- Mihaela Nicolescu, Octavian Buiu *Organic Stereochemistry, basic concepts and applications*, ISBN 978- 606- 23- 0885- 8, 2018, Printech Publishing House, Euroinvent Book Salon, Iasi, Romania, 2019
15. **38. Editor's Choice Articles Award for Polymers 2023-2024** for the paper: Bumbac, M., Nicolescu, C. M., Zaharescu, T., Gurgu, I. V., Bumbac, C., Manea, E. E., A. I. Ionescu, I.V. Gurgu, **B. C. Serban**, O. Buiu, Dumitrescu, C. (2024). *Biodegradation Study of Styrene-Butadiene Composites with Incorporated Arthrospira platensis Biomass*, Polymers, 16(9), 1218., **IF.5**

1. **Proiecte de cercetare-dezvoltare pe bază de contract/grant**, internaționale (Pi1., Pi2,) și naționale (Pn1, Pn2,) și contracte cu agenți economici (Ae1, Ae2 etc.):

- Pi1.** EEA Financial Mechanism 2014-2021, Research Project RO-NO-20190691-**2020-2023**, *GRAAL Recovery - Granular activated algae technology for wastewater treatment and resources recovery*, Responsabil Universitatea Valahia din Targoviste.
- Pi2.** Nuclear and related techniques for environmental and life sciences, Protocol 4323-4-14/16, **2014-2015**, membru în echipa de proiect.
- Pn1.** Start-INOV: Cercetarea și Inovarea ca interfață pentru pregătirea unui mediu competitiv sustenabil, ID CNFIS-FDI-2023-F-0048” – membru în echipa de implementare.
- Pn2.** Proiect PN-III-P2-2.1.-PED-2019-5248, **2020 – 2022**, *Controlled Atmosphere for STOrage facilities of fruits and vegetables: a Low-cost multidisciplinary solution (CASTOL)*, membru în echipa de proiect – Universitatea Valahia din Târgoviște.
- Pn3.** Proiect *Excellence and Performance to increase the RDI Institutional Capacity (ProExcellence)*, financed by the Romanian Ministry of Research, Innovation, and Digitization under contract no. 43 PFE/2021, – membru în echipa de proiect, **2022-2024**.
- Pn4.** *Open-Research: Noi perspective privind aderarea la practicile științei deschise în Universitatea Valahia din Targoviște* CNFIS-FDI-**2022-0034** – membru în echipa de proiect;
- Pn5.** Proiect CNFIS-FDI-2020-0397, D6 - *Supporting research of excellence in universities. UVT*, **2020**, membru în echipa de proiect.

Ae1. *Developing of new polymer composites incorporating recycled rubber powder – contributions to circular economy in polymers production chain (RUBECO)*, SC M.CECCHI & CO. S.p.A. Italia, contract servicii CDI nr. 5963/ 07.09.**2022** (7 luni), **15.000 euro**, director de proiect.

Ae2. *Studiu de cercetare privind obținerea unor materiale avansate de tip compozite polimerice (produs și tehnologie) în vederea înlocuirii elastomerilor reticulați. Evaluarea unor modalități de valorizare optimă în contextul economiei circulare (CORELAST)*, SC VETA SRL Târgu Mureș, contract servicii CDI nr. 4039/ 07.06.**2022** (12 luni), **12.000 euro**, membru în echipa de proiect.

Ae3. *Studiu de cercetare privind dezvoltarea și testarea unor materiale compozite polimerice avansate funcționalizate prin înglobare de enzime (ENZIPOL)*, SC KIK Compounds SRL, Târgoviște, contract servicii CDI nr. 4574 / 30.06.**2022** (24 luni), **21.600 lei**, membru în echipa de proiect.

Ae4. *Studiu de cercetare privind optimizarea unor proprietăți fizico-mecanice și structurale ale unor materiale avansate polimerice cu potențial de biodegradare (MAVMEC)*, SC KIK Compounds SRL, Târgoviște, contract servicii CDI nr. 4575 / 30.06.**2022** (3 luni), **1.000 euro**, responsabil/coordonator tehnic.

Ae5. *Studiu de cercetare privind dezvoltarea, testarea și caracterizarea unor compozite polimerice avansate cu potențial de biodegradabilitate. Evaluarea unor modalități de valorizare optimă în contextul economiei circulare (BioComAV)*, SC KIK Compounds SRL, Târgoviște, contract servicii CDI nr. 4867 / 30.09.**2020** (36 luni), **45.000 lei**, membru în echipa de proiect.

Ae6. *Studiu de cercetare privind obținerea unor creme cosmetice și/sau dermatologice utilizând extracte de struguri; evaluarea unor modalități de valorizare optimă în contextul economiei circulare.* SC Hyperici Pharm SRL Târgoviște, contract servicii CDI nr. 2 / 11.01.2021 (10 luni), **5.000 lei**, membru în echipa de proiect.

Ae7. *Studiu de cercetare științifică aplicativă privind valorificarea unor deșeuri rezultate din tehnologii agro-alimentare cu scopul obținerii unor compuși bioactivi cu utilitate practică specifică.* SC Marchand Pharma Tech SRL, Măgurele, Ilfov, contract servicii CDI nr. 3470/15.07.2020 (8 luni), **12.000 lei**, membru în echipa de proiect.

Ae9. *Studiu de cercetare privind utilizarea unor substanțe anorganice cu funcționalități specifice în tehnologii agro-alimentare sustenabile.* SC Marchand SRL, Măgurele, Ilfov, contract servicii CDI nr. 4096/27.07.2016, **1.700 lei**, membru în echipa de proiect.

Ae14. *Evaluarea polarizabilității unor substanțe cu lumină verde - aplicații ale spectrometriei Raman,* Institutul Clinic Fundeni, București, contract servicii CDI nr. 195/24.11.2015, **2.300 lei**, membru în echipa de proiect.