

Lista lucrărilor publicate

I. Lista celor maximum 10 publicații

- 1) Fagadar-Cosma E.; Pleșu N.; Lascu A.; Anghel D.; Cazacu M.; Ianasi C.; Fagadar-Cosma G.; **Fratilescu I.**; Epuran C. Novel Platinum-Porphyrin as Sensing Compound for Efficient Fluorescent and Electrochemical Detection of H₂O₂ *Chemosensors*. **2020**, 8(2), 29. <https://doi.org/10.3390/chemosensors8020029>; **F.I. = 5.02**
- 2) Anghel, D.; Lascu, A.; Epuran, C.; **Fratilescu, I.**; Ianasi, C.; Birdeanu, M.; Fagadar-Cosma, E. Hybrid Materials Based on Silica Matrices Impregnated with Pt-Porphyrin or PtNPs Destined for CO₂ Gas Detection or for Wastewaters Color Removal. *Int. J. Mol. Sci.* **2020**, 21(12), 4262. <https://doi.org/10.3390/ijms21124262>; **F.I. = 5.62**
- 3) **Fratilescu, I.**; Dudás, Z.; Birdeanu, M.; Epuran, C.; Anghel, D.; Fringu, I.; Lascu, A.; Len, A.; Fagadar-Cosma, E. Hybrid Silica Materials Applied for Fuchsine B Color Removal from Wastewaters. *Nanomaterials*. **2021**, 11(4), 863. <https://doi.org/10.3390/nano11040863>; **F.I. = 5.719**
- 4) Epuran, C.; **Fratilescu, I.**; Anghel, D.; Birdeanu, M.; Orha, C.; Fagadar-Cosma, E. A Comparison of Uric Acid Optical Detection Using as Sensitive Materials an Amino-Substituted Porphyrin and Its Nanomaterials with CuNPs, PtNPs and Pt@CuNPs. *Processes* **2021**, 9(11), 2072. <https://doi.org/10.3390/pr9112072>; [*Feature Paper*]; **F.I. = 3.352**
- 5) Fringu, I.; Lascu, A.; Macsim, AM.; Fratilescu, I.; Epuran, C.; Birdeanu, M.; Fagadar-Cosma, E. Pt(II)-A₂B₂ metalloporphyrin AuNPS hybrid material suitable for optical detection of 1-anthraquinonsulfonic acid. *Chem. Pap.* **2022**, 76, 2513–2527. <https://doi.org/10.1007/s11696-021-02047-2>; **F.I. = 2.41**
- 6) Birdeanu, M.; **Fratilescu, I.**; Epuran, C.; Murariu, A.C.; Socol, G.; Fagadar-Cosma, E. Efficient Decrease in Corrosion of Steel in 0.1 M HCl Medium Realized by a Coating with Thin Layers of MnTa₂O₆ and Porphyrins Using Suitable Laser-Type Approaches. *Nanomaterials* **2022**, 12(7), 1118. <https://doi.org/10.3390/nano12071118>; **F.I. = 5.3**
- 7) Epuran, C.; **Fratilescu, I.**; Macsim, A.-M.; Lascu, A.; Ianasi, C.; Birdeanu, M.; Fagadar-Cosma, E. Excellent Cooperation between Carboxyl-Substituted Porphyrins, k-Carrageenan and AuNPs for Extended Application in CO₂ Capture and Manganese Ion Detection. *Chemosensors* **2022**, 10(4), 133. <https://doi.org/10.3390/chemosensors10040133>; [*Cover Issue*]; **F.I. = 4.2**
- 8) **Fratilescu, I.**; Lascu, A.; Taranu, B.O.; Epuran, C.; Birdeanu, M.; Macsim, A.-M.; Tanasa, E.; Vasile, E.; Fagadar-Cosma, E. One A₃B Porphyrin Structure—Three Successful Applications. *Nanomaterials* **2022**, 12(11), 1930. <https://doi.org/10.3390/nano12111930>; [*Editor's Choice*] [*Cover Issue*]; **F.I. = 5.3**
- 9) Birdeanu, M.; **Fratilescu, I.**; Epuran, C.; Mocanu, L.; Ianasi, C.; Lascu, A.; Fagadar-Cosma, E. Nanomaterials Based on Collaboration with Multiple Partners: Zn₃Nb₂O₈

Doped with Eu^{3+} and/or Amino Substituted Porphyrin Incorporated in Silica Matrices for the Discoloration of Methyl Red. *Int. J. Mol. Sci.* **2023**, *24*(10), 8920. <https://doi.org/10.3390/ijms24108920>; **F.I. = 5.6**

- 10) Lascu, A.; Vlascici, D.; Birdeanu, M.; Epuran, C.; **Fratilescu, I.**; Fagadar-Cosma, E. The Influence of the Nature of the Polymer Incorporating the Same A_3B Multifunctional Porphyrin on the Optical or Electrical Capacity to Recognize Procaine. *Int. J. Mol. Sci.* **2023**, *24*(24), 17265. <https://doi.org/10.3390/ijms242417265>; **F.I. = 5.6**

II. Titlul tezei de doctorat

Interferențe posibile între porfirinele de sinteză și metalele din grupa elementelor platinice. Aplicații în recuperarea platinei, senzorială și decolorarea apelor reziduale

III. Lista articolelor, publicate în reviste din fluxul științific internațional principal

A. Articole ISI

- 1) Birdeanu, M.; Epuran, C.; **Fratilescu, I.**; Fagadar-Cosma, E. Structured Thin Films Based on Synergistic Effects of MnTa_2O_6 Oxide and bis-Carboxy-phenyl-substituted Porphyrins, Capable to Inhibit Steel Corrosion. *Processes* **2021**, *9*(11), 1890. <https://doi.org/10.3390/pr9111890>; **F.I. = 3.352**
- 2) Birdeanu, M.; Epuran, C.; **Fratilescu, I.**; Fagadar-Cosma, E. Structured composites between MnTa_2O_6 and porphyrins: Influence of the number of carboxylic groups grafted on porphyrins on the capacity to inhibit corrosion of steel. *Indian J. Chem. Technol.* **2022**, *29*(4), 354–366. <https://doi.org/10.56042/ijet.v29i4.59344>; **F.I. = 0.56**
- 3) Lascu, A.; Epuran, C.; **Fratilescu, I.**; Birdeanu, M.; Halip, L.; Fagadar-Cosma, E. Porphyrin Hetero-Trimer Involving a Hydrophilic and a Hydrophobic Structure with Application in the Fluorescent Detection of Toluidine Blue. *Chemosensors* **2022**, *10*(11), 481. <https://doi.org/10.3390/chemosensors10110481>; **F.I. = 4.2**
- 4) Vlascici, D.; Lascu, A.; **Fratilescu, I.**; Anghel, D.; Epuran, C.; Birdeanu, M.; Chiriac, V.; Fagadar-Cosma, E. Asymmetric Pt(II)-Porphyrin Incorporated in a PVC Ion-Selective Membrane for the Potentiometric Detection of Citrate. *Chemosensors* **2023**, *11*(2), 108. <https://doi.org/10.3390/chemosensors11020108>; **F.I. = 4.2**
- 5) Fringu, I.; Anghel, D.; **Frățilescu, I.**; Epuran, C.; Birdeanu, M.; Făgădar-Cosma E.; Nanomaterials Based on 2,7,12,17-Tetra-tert-butyl-5,10,15,20-tetraaza-21H,23H-porphine Exhibiting Bifunctional Sensitivity for Monitoring Chloramphenicol and Co^{2+} . *Biomedicines*, **2024**, *12*, 770. <https://doi.org/10.3390/biomedicines12040770>; **F.I. = 3.9**

- 6) Anghel, D.; Epuran, C.; Fringu, I.; **Frățilescu, I.**; Lascu, A.; Macsim, A.M.; Chiriac, V.; Gherban, M.; Vlascici, D.; Făgădar-Cosma, E. Double Type Detection of Triiodide and Iodide Ions Using a Manganese(III) Porphyrin as Sensitive Compound. *Sensors*, **2024**, *24*, 5517. <https://doi.org/10.3390/s24175517>; **F.I. = 3.9.**
- 7) Epuran, C.; **Fratilescu, I.**; Fringu, I.; Lascu, A.; Halip, L.; Gherban, M.; Fagadar-Cosma, E. UV-Vis Detection of Thioacetamide: Balancing the Performances of a Mn(III)-Porphyrin, Gold Colloid, and Their Complex for Selecting the Most Sensitive Material. *Micromachines* **2025**, *16*(5), 574. <https://doi.org/10.3390/mi16050574>; **F.I. = 3.0**

B. Articole BDI

- 1) Anghel, D.; Lascu, A.; **Fratilescu, I.**; Epuran, C.; Plesu N.; Fagadar-Cosma E. Review about Main Requirements for Porphyrin Derivatives as Components of Dye Sensitized Solar Cells. *J. Solar Energ. Res. Updat.* **2019** *6*, 78–86. <https://doi.org/10.31875/2410-2199.2019.06.9>

IV. Lista publicațiilor in extenso, apărute în lucrări ale principalelor conferințe internaționale de specialitate

- 1) Fratilescu I.; Anghel D.; Lascu A.; Epuran C.; Făgădar-Cosma E., Platinum-Porphyrin Involved in the UV-Vis Spectrophotometric detection of Rhodamine B and Oxygen Peroxide, *Proceedings of the 25th International Symposium on Analytical and Environmental Problems*, Szeged, Hungary, pp 133-136, ISBN 978-963-306-702-4
- 2) Epuran C.; Anghel D.; Lascu A.; Fratilescu I.; Făgădar-Cosma E., Optical Detection of Rhodamine B by Pt(II) Tetra-(4-Allyloxy-Phenyl)-Porphyrin, *Proceedings of the 25th International Symposium on Analytical and Environmental Problems*, Szeged, Hungary, pp 129–132, ISBN 978-963-306-702-4
- 3) Anghel D.; Lascu A.; Fratilescu I.; Epuran C.; Făgădar-Cosma E., Zn-Metalloporphyrins Containing Pyridyl Groups and Their Comparative Capacity to Coordinate Hexachloroplatinic Acid, *Proceedings of the 25th International Symposium on Analytical and Environmental Problems*, Szeged, Hungary, pp 100–103, ISBN 978-963-306-702-4
- 4) Birdeanu M.; Birdeanu A-V.; Fratilescu I.; Fagadar-Cosma E. Diminishing of steel corrosion in acid environment using thin bi-layer surfaces of mono-carboxyl-substituted A₃B porphyrin and MnTa₂O₆. *Proceedings 13th International Conference on Nanomaterials - Research & Application – Nanocon 2021*, October 20–22, 2021, Brno, Czech Republic, pp 448–453 ISBN: 978-80-88365-00-6. DOI: <https://doi.org/10.37904/nanocon.2021.4373>
- 5) Fagadar-Cosma E.; Birdeanu M.; Fratilescu I.; Birdeanu A-V.; Stamatini I. When Laser Methods Encounter Porphyrin Derivatives to Create Multifunctional Thin

Layers Destined for Corrosion Inhibition and Sensor Devices. *Webinar on Laser, Optics & Photonics*, July 26–27, 2021, Greenville, USA, pp 17

- 6) Fratilescu, I.; Fagadar-Cosma, E. Recovery of Waste Industrial Waters Containing Red Congo by Multifunctionalized Mesoporous Silica Nanomaterials. *Chem. Proc.* 2022, 7(1), 19. <https://doi.org/10.3390/chemproc2022007019>

V. Lista brevetelor de invenție și a altor titluri de proprietate industrial

- 1) **RO Patent–a202000533, Fratilescu, I.**; Anghel, D.; Epuran, C.; Ianasi, C.; Fagadar-Cosma E. Titlu: „Metoda de Adsorbție a Coloranților din Ape Contaminate Utilizând Materiale Hibride pe Bază de Silice Mezoporoasă care Încorporează Nanoparticule de Platină sau Pt(II)-tetra-(aliloxi-fenil)-porfirina”, **publicat în RO-BOPI 2/2022, din 28.02.2022**
- 2) **RO Patent–a202200130, Birdeanu, M.**; Epuran, C.; **Frățilescu, I.**; Fagadar-Cosma, E. Titlu: „Procedeu de obținere de inhibitori de coroziune organizați în straturi subțiri alternative de porfirine substituite cu grupări carboxil și oxid pseudo-binar de tip $MnTa_2O_6$, realizate prin tehnica PLD”, **publicat în RO-BOPI 9/2023, din 29.09.2023**

Candidat: Frățilescu Ion



Data: 22.05.2025