

**Universitatea Națională de Știință și Tehnologie POLITEHNICA București**

Facultatea: **Inginerie Chimică și Biotehnologii**

Departamentul: **Chimie Anorganică, Chimie Fizică și Electrochimie**

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Gradul didactic: **conferentiar**

## **L I S T A**

### **lucrărilor științifice în domeniul disciplinelor din postul didactic**

#### **A. Teza de doctorat**

A1. **Simona Căprărescu**, *Studii și cercetări privind aplicarea unor metode electrochimice în protecția mediului*, emisă de Universitatea Politehnica din București, București, 2010, în domeniul Inginerie Chimică, ordin 4542/28.07.2010, conducător de doctorat Prof. dr. ing. Constantinescu Ionel.

#### **B. Cărți și capitole în cărți publicate în ultimii 10 ani**

B1. Cojocaru, I. Maior, **S. Căprărescu**, I.-A. Ciobotaru, D.-I. Văireanu, *Electrochimie aplicată în ingineria economică*, Ed. ELECTRA, 2015, ISBN: 978-606-507-081-3, pag. carte 280, contribuție capitole C.2, C.3.1-3.3, C3.5.

B2. Modrogan, **S. Căprărescu**, A. M. Dăncila, O. D. Orbuleț, *Tratarea și epurarea apelor, Îndrumar de laborator*, Ed. Politehnica Press, București, 2020, pag. 143, ISBN 978-606-515-903-7.

B3. Cornelia Bandas, Carmen Lazau, Mircea Nicolaescu, Corina Orha, Aniela Pop, **Simona Căprărescu**, *Microwave-assisted Hydrothermal Deposition of Reduced Graphene Oxide on Ti Foil*, Current Topics and Emerging Issues in Materials Sciences, Vol. 1, Cap. 2, 2023, pag. 19-47, ISBN: 978-81-19217-34-2, eBook ISBN: 978-81-19217-35-9, DOI: 10.9734/bpi/cteims/v1/18639D.

B4. **Simona Căprărescu**, Cristina Modrogan, Annette Madelene Dăncilă, and Oanamari Daniela Orbuleț, *Advanced Materials Based on Nanoparticles for Water and Wastewater Treatment: From Synthesis to Applications*, Advances in Water and Wastewater Treatment Theoretical and Experimental Approaches, PART III: OTHER ADVANCED TREATMENTS, Cap. 12, Ed. Apple Academic Press, Hard ISBN: 9781774917039.

B5. Mircea Nicolaescu, Corina Orha, Mina-Ionela Morariu (Popescu), Viorel Șerban, **Simona Căprărescu**, Carmen Lazau, Cornelia Bandas, *Achievement of a UV photodetector based on TiO<sub>2</sub>/CuMnO<sub>2</sub> heterostructures : A New Strategy*, Chemical and Materials Sciences: Developments and Innovations, Vol. 10, Cap. 8, pag. 116 – 146, Ed. BP International, Print ISBN: 978-93-49473-90-4, eBook ISBN: 978-93-49473-30-0, DOI: <https://doi.org/10.9734/bpi/cmsdi/v10/4345>.

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

C1. **Căprărescu, S.**; Tihan, G.T.; Zgârian, R.G.; Grumezescu, A.M.; Lazau, C.; Bandas, C.; Atanase, L.I.; Nicolae, C.-A. *Synthesis and Characterization of Cellulose Acetate/PolyethyleneGlycol/Poly(Styrene)-b-Poly(4-Vinylpyridine) Membrane Embedded with Hydrotermaly Activated TiO<sub>2</sub> Nanoparticles for Waste-Waters Treatment by Membrane Processes*, Polymers 2025, 17, 446. <https://doi.org/10.3390/polym17040446>.

C2. Bandas, C.; Nicolaescu, M.; Popescu, M.I.; Orha, C.; **Căprărescu, S.\***; Lazau, C.\*, *One-Step Microwave-Assisted Hydrothermal Preparation of Zn-ZnO(Nw)-rGO Electrodes for Supercapacitor Applications*. Materials 2023, 16(13), 4536. <https://doi.org/10.3390/ma16134536>.

- C3.Orbuleț, O.D.; Dăncilă, A.M.; **Căprărescu, S.\***; Modrojan, C.; Purcar, V., *Nitrates Removal from Simulated Groundwater Using Nano Zerovalent Iron Supported by Polystyrenic Gel*. *Polymers* 2023, 15(1), 61. <https://doi.org/10.3390/polym15010061>
- C4.V. Purcar, V. Rădițoiu, F. M. Raduly, A. Rădițoiu, **S. Căprărescu**, A. N. Frone, C.-A. Nicolae, *Physicochemical and Optical Properties of Hybrid Films Containing TiO<sub>2</sub>-Based Silica Materials*, *Romanian Journal of Physics* 2023, 68(1-2), 604
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- C7.Heidari, P.; Salehi, M.; Ruhani, B.; Purcar, V.; **Căprărescu, S.**, *Influence of Thin Film Deposition on AFM Cantilever Tips in Adhesion and Young's Modulus of MEMS Surfaces*. *Materials* 2022, 15, 2102. <https://doi.org/10.3390/ma15062102>.
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- C11. Purcar, V.; Rădițoiu, V.; Rădițoiu, A.; Raduly, F.M.; Ispas, G.C.; **Căprărescu, S.**; Frone, A.N.; Trică, B.; Nicolae, C.-A.; Anastasescu, M.; Hermine, S., *Effect of Modified Silica Materials on Polyvinyl Chloride (PVC) Substrates to Obtain Transparent and Hydrophobic Hybrid Coatings*. *Appl. Sci.* 2021, 11(22), 11044. <https://doi.org/10.3390/app112211044>.
- C12. Salehi, M.; Heidari, P.; Ruhani, B.; Kheradmand, A.; Purcar, V.; **Căprărescu, S.**, *Theoretical and Experimental Analysis of Surface Roughness and Adhesion Forces of MEMS Surfaces Using a Novel Method for Making a Compound Sputtering Target*. *Coatings* 2021, 11(12), 1551. <https://doi.org/10.3390/coatings11121551>.
- C13. **S. Caprarescu**, V. Purcar, V. Raditoiu, C. A. Nicolae, C. Modrojan, A. A. Scarlat, *Efficient and versatile laboratory electro dialysis device used for removal of iron ions from a synthetic wastewater*, *Romanian Reports in Physics*, 2021, Vol. 73, Nr. 3, 802.
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- C16. V. Purcar, V. Rădițoiu, A. Rădițoiu, F. M. Raduly, R. Manea, A. Frone, M. Anastasescu, G. C. Ispas, **S. Căprărescu**, *Bilayer coatings based on silica materials and iron (III) phthalocyanine – Sensitized TiO<sub>2</sub> photocatalyst*, *Materials Research Bulletin*, 2021, 138, 111222, <https://doi.org/10.1016/j.materresbull.2021.111222>.

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- C18. Ion-Ebrașu, R. D. Andrei, S. Enache, **S. Căprărescu**<sup>\*</sup>, C. C. Negrilă, C. Jianu, A. Enache, I. Boerașu, E. Carcadea, M. Varlam, B. Ș. Vasile, J. Ren, *Nitrogen Functionalization of CVD Grown Three-Dimensional Graphene Foam for Hydrogen Evolution Reactions in Alkaline Media*, *Materials*, 2021, 14, 4952. <https://doi.org/10.3390/ma14174952>.
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- C25. M. Dăncilă, **S. Caprarescu**, C. Bobirică, V. Purcar, G. Gârleanu, V. Eugeniu, C. Modrojan, C. Borda, D. Dobrotă, *Optimization of the Technological Parameters of Obtaining Zn-Ti Based Composites for Increasing the Performance of H<sub>2</sub>S Removal from Syngas*, *Processes*, 2020, 8, 562. doi:10.3390/pr8050562.
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- C45. Maior, I.-A. Ciobotaru, **S. Căprărescu**, A. Cojocaru, D.-I. Văireanu, *Electrochemical Studies on Modified Organo-Silanes Composite Coatings for Aluminium Corrosion Inhibition*, STUDIA UBB CHEMIA, LX, 3, 2015, p. 87-98.
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**D. Lucrări publicate în ultimii 10 anii în reviste și volume de conferințe cu referenți (neindexate)**

**- Selecție cu maximum 20 lucrări în volume de conferințe**

- D1. **S. Caprarescu**, R. Ianchis, A.-L. Radu, V. Purcar, E. Alexandrescu, A. Sarbu, A. R. Miron, D. I. Văireanu, A. Cojocaru, I. Maior, I. A. Ciobotaru, *Preparation, characterization and application of modified commercial organoclay polymer membranes for removal of indigo carmine*, International Symposium: Priorities of Chemistry for a Sustainable Development PRIOCHEM - 11th Edition, Bucharest, 29-30 October 2015, S3-P-3, p. 110.
- D2. **S. Caprarescu**, A.-L. Radu, V. Purcar, C. Petcu, R. Ianchis, E. Alexandrescu, A. Sarbu, C. L. Nistor, A. R. Miron, D. Ion-Ebrasu, A. Cojocaru, *Polymer membranes with plant extracts for removal of dyes from wastewaters*, International Symposium: Priorities of Chemistry for a Sustainable Development PRIOCHEM - 11th Edition, Bucharest, 29-30 October 2015, S3-P-12, p. 119.
- D3. **S. Caprarescu**, A.R. Miron, V. Purcar, A.-L. Radu, A. Sarbu, C. Petcu, R. Ianchis, E. Alexandrescu, C.L. Nistor, C.I. Spataru, S. Nitu, I. Maior, *Removal of dye from synthetic wastewaters using polymer membranes enhanced with plant extract*, International Symposium "Priorities of Chemistry for a Sustainable Development" PRIOCHEM, 12th Edition 27-28 October 2016, Bucharest, Romania, Section 3 – Multifunctional materials and nanocomposites.
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- D7.R. Şomoghi, V. Purcar, R. Ianchiș, B. Trică, S. G. Nițu, C. Petcu, C. L. Nistor, E. Alexandrescu, C. Gîfu, **S. Căprărescu**, *Morphology Of ZnO Nanostructured Materials Obtained Through Sol-Gel Process*, 17th International Balkan Workshop on Applied Physics and Materials Science, 11-14 July 2017, Constanta, Romania, p. 61.
- D8.**S. Căprărescu**, V. Purcar, A. R. Miron, A. L. Radu, M. Pascu (Neagu), *Preparation and characterisation of polymer membranes enhanced with medicinal plant extract*, 17th International Multidisciplinary Scientific GeoConference SGEM, 27 June-6 July 2017, Albena, Bulgaria.
- D9.**S. Caprarescu**, V. Purcar, A. L. Radu, A. R. Miron, C. Modrogan, *Removal of nickel ions from synthetic wastewater by electro dialysis using polymer membranes doped with plant extract*, 17th International Multidisciplinary Scientific GeoConference SGEM 27 June-6 July 2017, Albena, Bulgaria.
- D10. V. Purcar, R. Şomoghi, V. Rădițoiu, D. M. Panaitescu, **S. Căprărescu**, *Structure modification of hybrid zirconium sol-gel coatings*, 17th International Multidisciplinary Scientific GeoConference SGEM, 27 June-6 July 2017, Albena, Bulgaria.
- D11. R. Şomoghi, V. Purcar, R. Ianchiș, S. G. Nițu, B. Trică, E. Alexandrescu, C. I. Gîfu, C. Petcu, **S. Căprărescu**, *Designing of new nanostructured zinc oxide materials for coatings of metallic surfaces*, International Symposium on Synthesis and Catalysis IsySyCat 2017, Evora, 5-8 September, Portugalia.
- D12. R. Şomoghi, V. Purcar, G. S. Nițu, I. C. Gîfu, E. Alexandrescu, **S. Căprărescu**, *Nanostructured materials based on ZnO with controlled shape and sizes, obtained by sol-gel process*, 5th International Conference "Geography, Environment and GIS, for students and young researchers", Targoviste, Romania, 17-19 May 2018, Section Environment, p. 61.
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**E. Brevete obținute în întreaga activitate**

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