

## Lista de lucrări

### Lista celor mai relevante 10 lucrări pentru realizările profesionale proprii:

1. **S. Fogarasi**, F. Imre-Lucaci, P. Ilea, and A. Imre-Lucaci, *The environmental assessment of two new copper recovery processes from Waste Printed Circuit Boards*. Journal of Cleaner Production, 2013. **54**, p. 264-269.
2. **S. Fogarasi**, F. Imre-Lucaci, Á. Imre-Lucaci, and P. Ilea, *Copper recovery and gold enrichment from waste printed circuit boards by mediated electrochemical oxidation*. Journal of Hazardous Materials, 2014. **273C**, p. 215-221.
3. **S. Fogarasi** and C.C. Cormos, *Technico-economic assessment of coal and sawdust co-firing power generation with CO<sub>2</sub> capture*. Journal of Cleaner Production, 2015. **103**, p. 140-148.
4. **S. Fogarasi**, F. Imre-Lucaci, A. Egedy, A. Imre-Lucaci, and P. Ilea, *Eco-friendly copper recovery process from waste printed circuit boards using Fe<sup>3+</sup>/Fe<sup>2+</sup> redox system*. Waste Management, 2015. **40**, p. 136-43.
5. **S. Fogarasi** and C.-C. Cormos, *Assessment of coal and sawdust co-firing power generation under oxy-combustion conditions with carbon capture and storage*. Journal of Cleaner Production, 2017. **142**, p. 3527-3535.
6. Á. Imre-Lucaci, M. Nagy, F. Imre-Lucaci, and **S. Fogarasi**, *Technical and environmental assessment of gold recovery from secondary streams obtained in the processing of waste printed circuit boards*. Chemical Engineering Journal, 2017. **309**, p. 655-662.
7. **S. Fogarasi**, **F. Imre-Lucaci**, M. Fogarasi, A. Imre-Lucaci, *Technical and environmental assessment of selective recovery of tin and lead from waste solder alloy using direct anodic oxidation*. Journal of Cleaner Production, 2019, **213**, p. 872-883.
8. M. Fogarasi, Z.M. Diaconeasa, C.R. Pop, **S. Fogarasi**, C.A. Semeniuc, A.C. Fărcaș, D. Țibulcă, C.-D. Sălăgean, M. Tofană, S.A. Socaci, *Elemental composition, antioxidant and antibacterial properties of some wild edible mushrooms from Romania*. Agronomy 2020, **10**, 12, 1972.
9. M. Fogarasi, M.-I. Socaciu, C.-D. Sălăgean, F. Ranga, A.C. Fărcaș, S.A. Socaci, C. Socaciu, D. Țibulcă, **S. Fogarasi**, C.A. Semeniuc, *Comparison of different extraction solvents for characterization of antioxidant potential and polyphenolic composition in Boletus edulis and Cantharellus cibarius mushrooms from Romania*. Molecules 2021, **26**, 7508.
10. **S. Fogarasi**, A. Imre-Lucaci, F. Imre-Lucaci, *Dismantling of waste printed circuit boards with the simultaneous recovery of copper: Experimental study and process modeling*. Materials **2021**, **14**, 18, 5186.

### Teza de doctorat:

**Fogarasi, S.**, *Recuperarea aurului și argintului din deșeuri de plăci de circuite imprimate*, 2012, Universitatea „Babeș-Bolyai”, Cluj-Napoca, Romania. p. 149.

### Cărți și capitole în cărți:

Barbu-Radu-Horațiu Mișca, **Szabolcs Fogarasi**, *Îndrumător pentru lucrări practice la disciplina transfer termic și aparate termice*, 2015, Presa Universitară Clujeană, Cluj-Napoca, Romania. p. 165.

**Articole/studii, publicate în reviste din fluxul științific internațional principal:**

11. **S. Fogarasi**, F. Imre-Lucaci, and P. Ilea, *Metals leaching from waste printed circuit boards. Part I: Efficiency and selectivity in FeCl<sub>3</sub> and CuCl<sub>2</sub> acidic solutions*. Studia UBB Chemia, 2012. **LVII**, 3, p. 31-40.
12. **S. Fogarasi**, F. Imre-Lucaci, and P. Ilea, *Metals leaching from waste printed circuit boards. Part II: Influence of thiourea, thiosulfate and thiocyanate concentration on the leaching process*. Studia UBB Chemia, 2012. **LVII**, 3, p. 41-49.
13. **S. Fogarasi**, F. Imre-Lucaci, T. Varga, and P. Ilea, *Eco-friendly leaching of base metals from waste printed circuit boards: Experimental study and mathematical modeling*. Studia UBB Chemia, 2012. **LVII**, 3, p. 91-100.
14. Imre-Lucaci, F., **S. Fogarasi**, P. Ilea, and M. Tămășan, *Copper recovery from real samples of WPCBs by anodic dissolution*. Environmental Engineering and Management Journal, 2012. **11**,8, p. 1439-1444.
15. Egedy, A., **S. Fogarasi**, T. Varga, A. Imre-Lucaci, and T. Chovan, *CFD models in the development of electrical waste recycling technologies*. Clean Technologies and Environmental Policy, 2014. **16**,7, p. 1255-1263.
16. **S. Fogarasi**, F. Imre-Lucaci, A. Imre-Lucaci, A. Egedy, S. Astalos, and P. Ilea, *Dissolution of base metals from waste printed circuit boards*. Environmental Engineering and Management Journal, 2015. **14**,11, p. 2529-2536.
17. Egedy, A., **S. Fogarasi**, T. Varga, A. Imre-Lucaci, and T. Chovan, *CFD-based scale-up and environmental assessment of a rotating drum leaching reactor for WEEE recycling*. Clean Technologies and Environmental Policy, 2015. **17**,5, p. 1373-1380.
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19. Popescu, I.A., T. Varga, A. Egedy, **S. Fogarasi**, T. Chován, Á. Imre-Lucaci, and P. Ilea, *Kinetic models based on analysis of the dissolution of copper, zinc and brass from WEEE in a sodium persulfate environment*. Computers & Chemical Engineering, 2015. **83**, p. 214-220.
20. Popescu, I.A., T. Varga, **S. Fogarasi**, Á. Imre-Lucaci, and P. Ilea, *Statistical Evaluation of Factors Affecting the Leaching Process of Waste Electrical and Electronic Equipment using Sodium Persulfate*. Chemical Engineering Communications, 2016. **203**,3, p. 414-423.
21. **S. Fogarasi**, F. Imre-Lucaci, A. Ghrisan, B.R.H. Mișca, and A. Imre-Lucaci, *Removal of lead from industrial wastewater by electrocoagulation using sacrificial aluminium electrodes*. Studia UBB Chemia, 2016. **LXI**,3, Tom II, p. 145-154.
22. **S. Fogarasi**, F. Imre-Lucaci, S. Dragan, and A. Imre-Lucaci, *Evaluation of mass transfer parameters for urea dissolution in fixed-bed with downward flow of water*. Studia UBB Chemia, 2016. **LXI**,3, Tom II, p. 495-504.
23. Popescu, I.-A., T. Varga, A. Egedy, **S. Fogarasi**, and P. Ilea, *Experimental Study and Mathematical Modeling of Metals Dissolution from LCD Boards in Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub> Environment*. Chemical Engineering Communications, 2017. **204**,1, p. 122-133.
24. **S. Fogarasi**, M. Nagy, F. Imre-Lucaci, A. Imre-Lucaci, *Identification of mass transfer parameters for rock salt dissolution in a plug flow system*. Studia UBB Chemia, 2017, **62**, p. 175-182.
25. M. Fogarasi, S.A. Socaci, **S. Fogarasi**, M. Jimborean, C. Pop, M. Tofana, A. Rotar, D. Tibulca, D. Salagean, L. Salanta, , *Evaluation of biochemical and microbiological changes occurring in fresh cheese with essential oils during storage time*. Studia UBB Chemia, 2019, **64**, p. 527-537.

26. S. Szima, S.M. Nazir, S. Cloete, S. Amini, **S. Fogarasi**, A.M. Cormos, C.C. Cormos, *Gas switching reforming for flexible power and hydrogen production to balance variable renewables*. Renewable and Sustainable Energy Reviews, 2019, **110**, 207-219.
27. D. Tibulca, M. Fogarasi, S.A. Socaci, **S. Fogarasi**, C. Pop, D. Salagean, M. Tofana, D. Michiu, *Effect of agaricus bisporus and origanum majorana l extract on the shelf-life and nutritional properties of pork liver pate*. Studia UBB Chemia, 2020, **65**, 2, p. 197-208.
28. A. Bains, P. Chawla, S. Kaur, A. Najda, M. Fogarasi, **S. Fogarasi**, *Bioactives from mushroom: Health attributes and food industry applications*. Materials, 2021, **14**, 24, 7640.
29. A. Imre-Lucaci, M. Fogarasi, F. Imre-Lucaci, **S. Fogarasi**, *Chemical-electrochemical process concept for lead recovery from waste cathode ray tube glass*. Materials, 2021, **14**, 6, 1546.
30. A. Ugwu, C. Arnaiz del Pozo, A. Zaabout, S.M. Nazir, N.U. Kalendar, S. Cloete, S. Szima, **S. Fogarasi**, F. Donat, G. van Diest, et al., *Gas switching technology: Economic attractiveness for chemical looping applications and scale up experience to 50 kwth*. International Journal of Greenhouse Gas Control, 2022, **114**, 103593.
31. S. Szima, C. Arnaiz del Pozo, S. Cloete, **S. Fogarasi**, Á. Jiménez Álvaro, A.M. Cormos, C.C. Cormos, S. Amini, *Techno-Economic Assessment of IGCC Power Plants Using Gas Switching Technology to Minimize the Energy Penalty of CO<sub>2</sub> Capture*. Clean Technologies, 2021, **3**, 3, p. 594-617.

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33. Egedy, A., **S. Fogarasi**, T. Varga, A. Imre-Lucaci, and T. Chován, *CFD assisted scale up of a rotating drum leaching reactor*, Chemical Engineering Transactions, 2014, **39**, p. 901-906.
34. Egedy, A., **S. Fogarasi**, T. Varga, Á. Imre-Lucaci, and T. Chován, *Integrated Model Based Framework for Calculation of Geometry Changes in Leaching Process*, Computer Aided Chemical Engineering, P.S.V. Jiří Jaromír Klemeš and L. Peng Yen, Editors. 2014, Elsevier. p. 1741-1746.
35. **S. Fogarasi**, A. Egedy, F. Imre-Lucaci, T. Varga, and T. Chován, *Hybrid CFD-Compartment Approach for Modelling and Optimisation of a Leaching Reactor*, Computer Aided Chemical Engineering, P.S.V. Jiří Jaromír Klemeš and L. Peng Yen, Editors. 2014, **33**, p. 1255-1260.
36. A.M. Cormos, S. Szima, **S. Fogarasi**, C.C. Cormos, *Economic assessments of hydrogen production processes based on natural gas reforming with carbon capture*. Chemical Engineering Transactions, 2018, **70**, 1231-1236.

**Participari la conferințe naționale și internaționale:**

1. **S. Fogarasi**, O. Sabo, A. Toos, Cs. Bolla, S. A. Dorneanu, P. Ilea, 2010, *Comparison of oxalic acid oxidation on Ti/PbO<sub>2</sub> and BDD at different operating parameters*, The 14<sup>th</sup> International Conference of Physical Chemistry, Bucharest, Romania, June 2-4.
2. F. Imre-Lucaci, **S. Fogarasi**, A. Imre-Lucaci, P. Ilea, 2011, *Environmental assessment of the process of copper recovery from waste by anodic dissolution*, Environment - Research, Protection and Management, Cluj-Napoca, Romania, November 11 – 12.
3. **S. Fogarasi**, 2012, *“Eco-friendly methods for the recovery of metals from waste printed circuit boards”*, IX<sup>th</sup> edition of "Students for Students" International Conference, Cluj-Napoca, Romania, May 10-13.

- 4 **S. Fogarasi**, F. Imre-Lucaci, P. Ilea, 2012, *Eco-friendly method for the pre-concentration of gold in waste printed circuit boards*, 3rd Regional Symposium on Electrochemistry South-East Europe, RSE-SEE, Bucharest, Romania, May 13-17.
5. **S. Fogarasi**, F. Imre-Lucaci, P. Ilea, 2012, *The metals dissolution from waste printed circuit board using Fe(III) as leaching reagent*, 63rd Annual Meeting of the International Society of Electrochemistry, Prague, Czech Republic, August 19-24.
6. **S. Fogarasi**, F. Imre-Lucaci, A. Imre-Lucaci, T. Chován, P. Ilea, *Gold recovery from the secondary streams resulted in the recycling process of waste printed circuit boards*, 18<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering, Sinaia, Romania, 2013.
7. I.A. Popescu, A. Egedy, **S. Fogarasi**, T. Varga, P. Ilea, 2013, *Kinetic modelling and optimisation of copper leaching process from waste electrical and electronic equipments*, 18<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering, Sinaia, Romania.
8. A. Egedy, **S. Fogarasi**, T. Varga, Á. Imre-Lucaci, T. Chován, 2013, *CFD Models in the Development of Electrical Waste Recycling Technologies*, Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction, Rhodos, Greece, september 29 - october 2.
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10. A. Egedy, **S. Fogarasi**, T. Varga, Á. Imre-Lucaci, T. Chován, *Integrated Model Based Framework for Calculation of Geometry Changes in Leaching Process*, in: P.S.V. Jiří Jaromír Klemeš, L. Peng Yen (Eds.) Computer Aided Chemical Engineering, Elsevier, 2014, pp. 1741-1746.
11. **S. Fogarasi**, A. Egedy, F. Imre-Lucaci, T. Varga, T. Chován, *Hybrid CFD-Compartment Approach for Modelling and Optimisation of a Leaching Reactor*, in: P.S.V. Jiří Jaromír Klemeš, L. Peng Yen (Eds.) Computer Aided Chemical Engineering, Elsevier, 2014, pp. 1255-1260.
12. **S. Fogarasi**, F. Imre-Lucaci, Á. Imre-Lucaci, A. Egedy, S. Astalas, P. Ilea, 2014, *Dissolution of Base Metals from Waste Printed Circuit Boards*, The 10th ELSEDIMIA International Conference, September 18-19, Cluj-Napoca, Romania.
13. **S. Fogarasi**, F. Imre-Lucaci, Á. Imre-Lucaci, P. Ilea, 2014, *Recovery of tin from secondary streams obtained in the processing of waste printed circuit boards*, The 20th International Conference on Chemistry, November 6-9, Cluj-Napoca, Romania.
14. A. Egedy, Ioana A. Popescu, **S. Fogarasi**, F. Imre-Lucaci, Á. Imre-Lucaci, T. Varga, T. Chován, P. Ilea, 2014, *Computer aided design of electrical waste leaching technology*, The XXXIII Romanian Chemistry Conference, October 1-3, Caciulata, Romania.
15. **S. Fogarasi**, F. Imre-Lucaci, Á. Imre-Lucaci, P. Ilea, 2015, *Copper recovery process from waste printed circuit boards using regenerable leaching system*, RICCE 19 – Sibiu, Romania.
16. Foran Mirabela Nicoleta, **S. Fogarasi**, F. Imre-Lucaci, A. L. Miclăuș, A. Imre-Lucaci, 2016, *Removal of cadmium ions from industrial wastewater by electrocoagulation using sacrificial electrodes*, XIII edition of "Students for Students" International Conference, Cluj-Napoca, Romania, April 13-17.
17. Nicorici Andrea Cristina, **S. Fogarasi**, F. Imre-Lucaci, S. Dragan, A. Imre-Lucaci, 2016, *Identification of mass transfer parameters for rock salt dissolution in a plug flow system*, XIII edition of "Students for Students" International Conference, Cluj-Napoca, Romania, April 13-17.
18. A. Imre-Lucaci, Cristian Taloș, **S. Fogarasi**, F. Imre-Lucaci, B. R. H. Mișca, P. Ilea, 2016, *Environmental assessment of gold extraction from secondary flows obtained in the recycling process of waste printed circuit boards*, The 11th ELSEDIMIA International Conference, May 26-28, Cluj-Napoca, Romania.

19. Mirabela Nicoleta Foran, F. Imre-Lucaci, **S. Fogarasi**, M. Nagy, Arpad Imre-Lucaci, Petru Ilea, 2017, *Copper recovery from electronic component free WPCBs by electrochemical processing*, 20<sup>th</sup> Romanian International Conference on Chemistry and Chemical Engineering, September 6-9, Poiana Brasov, Romania.
20. **S. Fogarasi**, F. Imre-Lucaci, M. Fogarasi, Á. Imre-Lucaci, 2018, *Electrochemical processing of different material fractions obtained from waste printed circuit boards*, 10th World Congress and Expo on Recycling, July 26-27, Amsterdam, Netherlands.
21. **S. Fogarasi**, F. Imre-Lucaci, M. Fogarasi, Á. Imre-Lucaci, 2018, *Tehcnical Assessment of Copper Liberation from Electronic Component FreeWaste Printed Circuit Base Boards*, A XXXV-a Conferință Națională de Chimie, October 2-5, Călimănești-Căciulata, Romania.
22. Á. Imre-Lucaci, M. Fogarasi, F. Imre-Lucaci, **S. Fogarasi**, 2019, *Technical and environmental assessment of copper recovery plant developed for the processing of waste printed circuit base boards*, 21st Romanian International Conference on Chemistry and Chemical Engineering, September 4-7, Constanta- Mamaia, Romania.
23. **S. Fogarasi**, F. Imre-Lucaci, M. Fogarasi, Á. Imre-Lucaci, 2019, *Recovery of copper and non-metallic fractions from waste printed circuit base boards*, 11th World Congress and Expo on Recycling, June 13-14, Edinburgh, Scotland.
24. Á. Imre-Lucaci, A.M. Cormos, F. Imre-Lucaci, **S. Fogarasi**, M. Fogarasi, 2023 *High purity copper production from spent Li-ion batteries anode current collector*, 10th International Conference on Sustainable Solid Waste Management, June 21-24, Chania, Crete Island, Greece.