

PERSONAL INFORMATION **Petru ILEA**


## WORK EXPERIENCE

**Professor, PhD coordinator**

2007- present

Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Department of Chemical Engineering, Cluj-Napoca, Romania

- \* Teaching and Research
- \* Doctoral leadership thesis in chemical engineering
- \* Projects Management POSDRU, doctoral scholarships
- \* Coordinate the activities of the Doctoral School of Chemical Engineering

**Professor**

2005 - present

Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Department of Chemical Engineering, Cluj-Napoca, Romania

Lectures, seminars, laboratory work and diploma projects bachelor level at disciplines:

- \* Electrochemical Engineering Process and Technology, Electrometallurgy and electrochemical remediation technologies
- \* Lectures, seminars, laboratory work and diploma projects Master level at disciplines:
- \* Electrochemical synthesis of materials with applications in environmental protection
- \* Unconventional energy sources
- \* Coordination Master in Materials Engineering and Environmental Protection
- \* Scientific research

**Director**

2006 -- present

Center for Physical and Chemical Analysis at the IRI BNS, Cluj-Napoca (România)

Coordination of research and physicochemical analysis services

Babes Bolyai University, Center for physico-chemical analyzes of the Institute for Interdisciplinary Experimental Research in Bio-Nano-Science, Cluj-Napoca, Romania

**Deputy Director**

2008 -- present

Coordination of accreditation activities and services to the community

Member of the Institute for Interdisciplinary Experimental Research in Bio-Nano-Science, Cluj-Napoca, Romania

- 2000 – 2009  
Chancellor  
Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania
- 2000 – 2005  
Associate Professor, Dr. Eng.  
Lectures, seminars, laboratory work and projects diploma, bachelor at the disciplines:  
  - Engineering and technology of electrochemical processes
  - Electrometallurgy and electrochemical remediation technologies
Lectures, seminars, laboratory work and projects Dissertations at the disciplines:  
  - Electrochemical synthesis of materials with applications in environmental protection
  - Coordination of Master in Materials Engineering and Environmental Protection
Member of the Faculty Council  
Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Department of Physical Chemistry, Cluj-Napoca, Romania
- 1990 – 2000  
Lecturer  
Lectures, seminars, laboratory work and projects diploma, Bachelor level at the disciplines:  
  - Engineering and technology of electrochemical processes
  - Electrochemistry
  - Electrometallurgy and electrochemical remediation technologies
Scientific research  
Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Department of Physical Chemistry, Cluj-Napoca, Romania
- 1987 – 1990  
Assistant  
Seminars, laboratory work and projects diploma, Bachelor level at the disciplines:  
  - Engineering and technology of electrochemical processes
  - Electrochemistry
  - Technical drawing
Scientific research  
Babes Bolyai University, Faculty of Chemistry and Chemical Engineering, Department of Physical Chemistry, Cluj-Napoca, Romania
- 1981 - 1987  
Researcher  
Scientific research  
Teaching activities (associate professor) seminars, laboratory work and license level projects at the subjects:  
  - Technology of electrochemical processes
  - Electrochemistry
  - Technical Drawing
Energy Institute of Chemistry and Biochemistry, Bucharest, Romania  
Electrochemical Energy Laboratory in Cluj-Napoca, Babes Bolyai University, Romania
- 1977 – 1981  
Chemical engineer  
Design of equipment for water softening  
Physic-chemical analysis of raw materials used in the production of thermal power equipment  
Responsible for laboratory analysis  
Investing activities  
Heavy Equipment Enterprise, Cluj-Napoca, Romania

## EDUCATION AND TRAINING

- 1990 – 1994 Ph.D. in Chemical Engineering  
Babeş Bolyai University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca, Romania
- 1972 – 1977 Chemical Engineer Diploma  
"Traian Vuia" Polytechnic Institute, Timisoara, Romania
- 1972 – 1977 Baccalaureate Degree  
"Alexandru - Papiu Ilarian" Theoretical High-school, Târgu-Mures, Romania

## PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
French	C1	C1	C1	C1	B2
English	B2	B2	A2	A2	B2

Communication skills

- Teamwork spirit
- Flexibility
- Ability to work under stress conditions

Organisational / managerial skills

- Organisational and leading skills of large groups of people, in activities related to the profession and in academic management

Job-related skills

- Specific to the basic profession (Chemical Engineer)

Other skills

- Microsoft Word
- Microsoft Excel
- Originlab Origin
- Thomson Reuters EndNote

Driving licence B

## ADDITIONAL INFORMATION

## Scientific activity

48 published articles in ISI journals, 25 articles published in CNCSIS accredited journals, three books and over 100 scientific communications (posters or oral communications) presented and printed at national and international conferences. 10 completed doctoral theses, 4 postdoctoral programs and 5 doctoral students in internship.

Participation in 26 research projects of which 5 as a director - including an on-going international research project.

Current and future researches done during research projects and/or the academic (doctoral and postdoctoral) research fall within the domain of Electrochemical Process Technology and Engineering. Studies are related to: inorganic substances electro synthesis, electrometallurgy and electrochemical technology applied in environmental remediation, protection and recycling.

## Recent publications (2012-2016)

1. S. Fogarasi, F. Imre-Lucaci, 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*, LVII (2012) 31-40
2. S. Fogarasi, F. Imre-Lucaci, 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*, LVII (2012) 41-49
3. S. Fogarasi, F. Imre-Lucaci, T. Varga, P. Ilea, Eco-friendly leaching of base metals from waste printed circuit boards: Experimental study and mathematical modelling, *Studia UBB Chemia*, LVII 3, (2012) 91-100
4. E. A. Cocis, V.F. Soporan, P. Ilea, F. Imre-Lucaci, B.M. Soporan, P. Bele, O. Nemes, Characterisation of Generated Ash from Hazardous Waste Incineration, *Studia Universitatis Babeş Bolyai, Seria Chimia*, LVII, 2, (2012) 147
5. F. Imre-Lucaci, S. Fogarasi, P. Ilea, M. Tămășan, Copper recovery from real samples of WPCBs by anodic dissolution, *Environmental Engineering and Management Journal*, 11 (2012) 1439-1444
6. F. M. Cuius, A. Ispas, A. Bund, P. Ilea, Square wave voltammetric detection of electroactive products resulting from electrochemical nitrate reduction in alkaline media, *Journal of Electroanalytical Chemistry* 675 (2012) 32-45
7. M.S. Anton, A.L. Mandiulea, U. Schmidt, A. Bund, P. Ilea, Hydrometallurgical Flow for Zinc Recovery from Zn-MnO<sub>2</sub> Waste Batteries. I. Zinc Solubilisation from Anodic Remnants, *Studia Universitatis Babeş Bolyai Chemia*, LVII, 2, (2012) 95
8. B. Robotin, V. Coman, P. Ilea, "Nickel recovery from electronic waste: III. Iron Nickel separation", *Studia Universitatis Babeş-Bolyai, Seria Chimia*, 57, 3, (2012) 81-90
9. F. A. Hanc-Scherer, Carlos M. Sánchez-Sánchez, P. Ilea, Enrique Herrero, Surface-Sensitive Electrooxidation of Carbon Monoxide in Room Temperature Ionic Liquids, *ACS Catalysis* 3,12, (2013) 2935-2938
10. S. Fogarasi, F. Imre-Lucaci, P. Ilea, A. Imre-Lucaci, The environmental assessment of two new copper recovery processes from Waste Printed Circuit Boards, *Journal of Cleaner Production*, 54 (2013) 264-269
11. V. Coman, B. Robotin, P. Ilea, "Nickel recovery / removal from industrial wastes: A review", *Resources, Conservation & Recycling*, 73, (2013) 229-238,
12. B. Robotin, A. Ispas, V. Coman, A. Bund, P. Ilea, "Nickel recovery from electronic waste: II Electrodeposition of Ni and Ni-Fe alloys from diluted sulphate solutions", *Waste Management*, 33, (2013) 2381-2389
13. R. Răcz, P. Ilea, Electrolytic recovery of Mn<sub>3</sub>O<sub>4</sub> and Zn from sulphuric acid leach liquors of spent zinc-carbon-MnO<sub>2</sub> battery powder, *Hydrometallurgy*, 139 (2013) 116-123
14. S. Fogarasi, F. Imre-Lucaci, A. Imre-Lucaci, P. Ilea, Copper recovery and gold enrichment from waste printed circuit boards by mediated electrochemical oxidation, *Journal of Hazardous Materials* 273 (2014) 215-221
15. E. Fischer-Fodor, A. M. Vălean, P. Virag, P. Ilea, C. Tatomir, F. Imre-Lucaci, M. Perde Schrepler, L. T. Krausz, L. B. Tudoran, C. G. Precup, I. Lupan, E. Hey-Hawkins, L. Silaghi-Dumitrescu, Gallium phosphinoarylthiolato complexes counteract drug resistance of cancer cells, *Metallomics*, 6, 4 (2014) 833-844
16. E. Gîlcă, A. Măicăneanu, P. Ilea, Removal of zinc ions as zinc chloride complexes from strongly acidic aqueous solutions by ionic exchange, *Cent. Eur. J. Chem.* 12, 8 (2014) 821-828
17. E. Gîlcă, A. Măicăneanu, P. Ilea, Kinetics analysis of zinc sorption in fixed bed column using a strongly basic anionic exchange resin, *Water Science and Technology* 71, 11 (2015) 1646-1653
18. E. Gîlcă, A. Măicăneanu, P. Ilea, Column and batch regeneration studies for zinc removal on different anionic exchange resins, *Studia Universitatis Babeş-Bolyai Chemia LX 3* (2015) 173-181
19. S. Fogarasi, F. Imre-Lucaci, P. Ilea, P. S. Agachi, A. Imre-Lucaci, Dissolution of base metals from WPCBs using Na<sub>2</sub>S<sub>2</sub>O<sub>8</sub> solution, *Studia Universitatis Babeş-Bolyai Chemia LX 3* (2015) 205-214
20. I. A. Popescu, T. Varga, A. Imre-Lucaci, T. Chován, P. Ilea. Kinetic Modelling of Copper and Zinc Dissolution from Brass Obtained from Waste Electrical and Electronic Equipment, *Computer Aided Chemical Engineering*, 33 (2014) 1147

21. S. Fogarasi, F. Imre-Lucaci, A. Egedy, Á. Imre-Lucaci, P. Ilea, Eco-friendly copper recovery process from waste printed circuit boards using  $\text{Fe}^{3+}/\text{Fe}^{2+}$  redox system, *Waste Management* 40 (2015) 136-143
22. I. Bleotu, S. Dorneanu, M. Muresanu, E. Gilcă, P. Ilea, Selective removal of Cu (II) from diluted aqueous media by an iminodiacetic acid functionalized resin. Thermodynamic and kinetic studies in batch, *Revista de Chimie*, 66, 6 (2015) 797-802
23. I. Bleotu, E. Gilcă, S. Dorneanu, C. Căţănaş, P. Ilea, Removal of copper from diluted aqueous solutions using an iminodiacetic acid chelating ion-exchange resin in a fixed-bed column, *Studia UBB Chemia*, LX, 3 (2015) 163-172
24. D. M. Sabou, S. Dorneanu, P. Ilea, Spectral Graphite as Electrode Material for the All-Vanadium Redox Flow Battery, *Studia UBB Chemia*, LX, 3 (2015) 193-203
- S. Fogarasi, F. Imre-Lucaci, Á. Imre-Lucaci, A. Egedy, S. Astalâş, P. Ilea, Dissolution of base metals from waste printed circuit boards, *Environmental Engineering and Management Journal*, 14, 11 (2015) 2529-2536
25. I. A. Popescu, T. Varga, S. Fogarasi, Á. Imre-Lucaci, P. Ilea, Statistical Evaluation of Factors Affecting the Leaching Process of Waste Electrical and Electronic Equipment using Sodium Persulfate, *Chemical Engineering Communications*, 203, 3 (2016) 414-423
26. I.A. Popescu, T. Varga, A. Egedy, S. Fogarasi, T. Chován, Á. Imre-Lucaci, 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* 05/2015; DOI:10.1016/j.compchemeng. 2015.05.002.

Memberships	<ul style="list-style-type: none"> <li>• International Society of Electrochemistry</li> <li>• Romanian Chemical Society</li> <li>• Romanian Electrochemistry Society</li> <li>• Romanian Environmental Association</li> <li>President of Romanian Chemical Engineering Association Cluj branch.</li> </ul>
Honours and awards	<ul style="list-style-type: none"> <li>• 2003, 2004, 2007 - Diploma of Merit for contributions to the development of Babeş Bolyai University;</li> <li>• 2006 - Diploma for institutional innovation Babeş Bolyai University</li> <li>• 2008 - Award for academic management of Babeş Bolyai University</li> </ul>