



## Europass Curriculum Vitae

### Personal information

First name(s) / Surname(s) Predica Vasile  
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E-mail vpredica@imnr.ro  
Nationality Romanian  
Date of birth 02. 11.1947  
Gender male

### Desired employment / Occupational field

#### Work experience

Dates 1982 – 2013; 2016 - present  
Occupation or position held Engineer – II scientific researcher  
Main activities and responsibilities Fundamental and applicative scientific research and technological development at laboratory, pilot and industrial scale in the domains:

- Nonferrous metals extraction (Cu, Pb, Zn, Ag, As, Sb) from selective and complex sulfurous concentrates through hydrometallurgical technologies;
- Useful elements valorification (Cu, Pb, Zn, Au, Ag, As, Sb) from byproducts (volatile dusts, welding, slag, residual acidic solutions) resulted from nonferrous extractive and manufacturing metallurgy
- Non-ferrous metals valorification (Cu, Pb) from secondary raw materials (wastes)
- Optimization, mathematical modeling of the extraction processes of non-ferrous metals
- Environment protection, residual/waste waters purification resulted from non-ferrous extractive metallurgy

Name and address of employer INCDMNR-IMNR, 102 Biruintei Blvd., Ilfov, Romania  
Type of business or sector Research and development  
Dates 1973-1982  
Occupation or position held Head of workshop  
Main activities and responsibilities Tracking the investment, commissioning, testing and operation of recovery technology of pyrites

Name and address of employer Pyrite ash valorification plant, 1 Portului str. Turnu Magurele, Romania  
Type of business or sector Manufacturing  
Dates 1971-1973  
Occupation or position held Trainee engineer  
Main activities and responsibilities Technician in exploitation/handling the Outokumpu smelting plant of copper concentrates

Name and address of employer Metallurgical plant for non-ferrous metals, Baia Mare  
Type of business or sector Manufacturing

### Education and training

Dates 1966-1971  
Title of qualification awarded Metallurgist

Principal subjects/occupational skills covered Non-ferrous extractive metallurgy

Name and type of organization providing education and training "Politehnic" Institute of Bucharest, Metallurgy Faculty

**Personal skills and competences**

Mother tongue(s) **Specify mother tongue : Romanian**

Other language(s)

Self-assessment

European level (\*)

**English**

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
A2	Elementary	B1	Intermediate	A2	Elementary	A2	Elementary	A2	Elementary

(\*) Common European Framework of Reference for Languages

Social skills and competences I work both with young people and experienced persons.  
Good communication skills

Organizational skills and competences Good experience in project or team management:  
Project manager and responsible in various research programs: RELANSIN, INVENT, CEEEX, SECTORIAL and NUCLEU

Technical skills and competences Experienced in commissioning and exploitation of industrial equipments in non-ferrous extractive metallurgy

Computer skills and competences Competent with most Microsoft Programs. Competent with MS Office (Word, Excel, Power Point) Corel

Driving license Yes, B

**Annexes**

1. Experience gained in national/ international programs
2. Patents
3. List of papers published or presented at scientific sessions, symposia and congresses

## EXPERIENCE GAINED IN NATIONAL/INTERNATIONAL PROGRAMS/PROJECTS:

Program/Project	Function	Period:
<b>International projects</b>		
<b>FP5 CLEAN LEAD GROWTH-NAS</b> Lead valorification from sulfato-oxidic wastes	Project participant	2002-2004
<b>FP6 BIOMINE:</b> Biotechnology for Metal Bearing Materials	Project participant	2004 - 2007
<b>NEPOLL:</b> The estimation of the pollution degree of water and soil in the vicinity of the industrial area NEFERAL – Bucharest and the impact upon the health of people living in this area	Project participant	2005 - 2007
<b>Life 10/ENV/RO/731 :</b> Microwaves ecofriendly alternative for a safe treatment of medical waste	Project participant	2011 - 2013
<b>NASIPONAC financed by Manunet-ERANET Program:</b> New approaches for SiC and Si <sub>3</sub> N <sub>4</sub> obtaining via polymer nanocomposites and their use for structural ceramics.	Project participant	2013 - 2016
<b>ERAMIN - Contract number 16/2016:</b> Recognition of microbial functional communities and assessment of the mineralizing potential (bioleaching) for high-tech critical metals	Project participant	2016 - 2019
<b>Horizon 2020 - Contract number 689515/2015:</b> Integrated innovative metallurgical system to benefit efficiently polymetallic, complex and low grade ores and concentrates.	Project participant	2016 - 2018
<b>National projects</b>		
<b>RELANSIN 2000/</b> Improvement of lead valorification technology from sulfato-oxidic wastes through melting in continuous functioning hearth	Project coordinator	1999 - 2002
<b>INVENT 2001/</b> Lead recovery from lead wastes with lead content technology implementation	Project coordinator	2001 - 2004
<b>RELANSIN 2003/</b> Modern technology and installation for secondary resources with lead content recycling	Project participant	2003 – 2005
<b>MENER PRIORITAR 2003/</b> New technological concept regarding the ecological and efficient processing of lead concentrates	Project participant	2003 - 2005
<b>MENER PRIORITAR 2003/</b> Elaboration of a national strategy on materials with non-ferrous metals content recycling	Project participant	2003-2005
<b>Sectorial Plan in the research and development field in the industry:</b> Elaboration of a guide for an eco-efficient industrial development	Project participant	2005
<b>CEEX</b> Technological concept radically changed in the recycling industry of lead for a cleaner, safer and eco-efficient production	Project manager	2006-2008
<b>CEEX</b> Technological concept radically changed in extractive industry of nonferrous metals for a cleaner, safer and eco-efficient production	Project participant	2006-2008
<b>CEEX</b> Treatment eco-technology of the liquid components resulted in the recycling processes of lead-acid batteries	Project participant	2006-2008
<b>CEEX:</b> New technological concept regarding the advanced purification of gaseous emissions released by the plants from nonferrous metals metallurgy in Romania	Project participant	2005 - 2007
<b>Romanian Program Partnership in priority fields Project 31-073/2007 :</b> Innovative methods and techniques to manage and treat dangerous wastes and levigates with toxic elements content coming from metallurgy of heavy nonferrous metals.	Project participant	2007 - 2010
<b>SECTORIAL Plan for an increased degree of recycling/valorification of wastes:</b> Study on industry's waste deposits identification; possibilities of re-use / recycling / valorification / disposal in order to reduce their impact on the environment	Project responsible	2008-2011
<b>Program NUCLEU, DURAMETNEF:</b> New and clean technologies for the valorification of low grade and complex resources of raw materials from the non-ferrous metallurgy	Project responsible	2009 – 2011
<b>SECTORIAL PROGRAM financed by National Authority for Scientific Research and Innovation by Plan:</b> Defining strategic directions for research relaunch in the field of exploitation and valorisation of the primary and secondary non-energy mineral resources.	Project participant	2015 - 2016
<b>Romanian Program NUCLEUS Project nr. PN 09 24 01 09:</b> Unconventional procedures for intensification of processes in the mining-metallurgical industry of non-ferrous and rare metals; application processes for treatment in the microwave field.	Project coordinator	2013 - 2014

<b>Romanian Program NUCLEUS Project nr. PN 16 20 01 02:</b> Minimizing the risk of environmental pollution with toxic and dangerous metal compounds present in industrial wastes of closed chemical plants: chromium disposal and recovery”,	Project participant	2016 - 2017
<b>Romanian Program NUCLEUS Project nr. PN 16 20 01 01:</b> New technological concept for obtaining and revaluing iron as magnetic oxides or electrolytically ultrapure iron from waste waters and impure industrial iron wastes”,	Project participant	2016 - 2017

**PUBLISHED PATENTS/INVENTIONS**

1. Zainea Marioara, **Predica Vasile**, Părpăriță Adrian "Copper recovery process from the sludge provided by wire drawing", Patent no.109101 B1, 30.11.1994
2. Dumitrescu Daniela, Velea Teodor, Segărceanu Tudor, **Predica Vasile**, Părpăriță Adrian "Hydrometallurgical process for tin recovery from anodic mud provided by electrolytic recovery of lead" Patent no.112297 B1, 30.07.1997
3. **Predica Vasile**, Părpăriță Adrian, Tănase Dumitru, Ioța Dumitru "Copper recovery process from the ashes resulted in foundries" Patent no.113134 B, 30.04.1998
4. Rădulescu Elena Carmen, Velea Teodor, **Predica Vasile**, Părpăriță Adrian, Părpăriță Adrian "Lead recovery process from lead slag and lead sulfato-oxidic byproducts" Patent no.116911 B, 30.07.2001
5. Dumitrescu Daniela, Părpăriță Adrian, **Predica Vasile**, Miclea Lucian, Ioța Dumitru "Process for separation and recovery of bismuth from chloride solutions with non-ferrous metals content resulted from volatilizing chlorination of pyrites" Patent no. 114808 B1, 30.07.1999
6. Miclea Lucian, **Predica Vasile**, Părpăriță Adrian, Tănase Dumitru, Dumitrescu Daniela "Process for the recovery of arsenic from waters provided by gasses washing" Patent no. 115068 B1, 29.10.1999
7. Velea Teodor, **Predica Vasile**, Gherghe Sândica Liliana, Gheorghită Maria „Lead recovery process from secondary sulfato-oxidic wastes” Patent no. 121606 B1, 28.12.2007
8. Velea Teodor, **Predica Vasile** „Copper sulfurous concentrates processing method” Patent no. 122496 B1, 30.07.2009
9. Velea Teodor, **Predica Vasile**, Gherghe Sândica Liliana „Hydrometallurgical process for separation and recovery of lead from sulphidic concentrates” Patent no. 123342 B1, 30.09.2011
10. Velea Teodor, **Predica Vasile**, Gherghe Sândica Liliana „Process for oxidizing metal sulphides within concentrates of nonferrous ”, Patent no. 128298 A2, 30.03.2017
11. Gherghe Liliana, Velea Teodor, **Predica Vasile** "Process for purification and recovery of spent sulfuric acid as pure gypsum", Patent no. 125292, 30.09.2013
12. Mara Eleonora-Luminița, **Predica Vasile**, Gheorghită Maria, Sârbu Liliana, Enache Lenuța, Bădiliță Viorel, Capotă Petre, Soare Victoria, Neagu Eleonora, Purcaru Victoria, Gherghe Sândica Liliana, Ghiță Mihai, Stoiciu Florentin, Bacalum Fănica, "Unconventional coagulant for purification of hydrocarbon-polluted water and process for preparing the same", Patent no. RO 129226 A8, 28.03.2014
13. Velea Teodor, Mara Luminita, **Predica Vasile**, Sarbu Andrei, Gheorghita Maria, Gherghe Sandica Liliana, Badilita Viorel, Dragut Valentin, Stoiciu Florentin, Ghita Mihai, Gradinaru Ioana Andreea, Mitu Andreea, Moise Alexandra Georgiana, Enache Lenuta, Ciripoiu Anita Laura, Zaharia Anamaria, "Process for purification of magnesium minerals, such as natural silicates", Patent no. RO 130172 B1, 29.07.2016
14. Mara Eleonora Luminița, **Predica Vasile**, Gheorghită Maria, Niță Petru." Process for the recovery of platinum-group metals from spent motor-vehicle catalysts", Patent RO 130166 B1, 29.07.2016
15. E.L. Mara, **V. Predica**, A. Sârbu, L.Sârbu, V. Bădiliță, P. Capotă, V. Fruth-Oprișan, S.A. Garea, V. Soare, V. Purcaru, F. Stoiciu, L. Gherghe, C. Lupu, M. Ghiță, A. Ispas, A. Lungu "Process for serpentinite processing, products and plant for making the same," Patent nr.128499 B1, 29.07.2016
16. Mara Eleonora Luminița, Gheorghită Maria, **Predica Vasile** Ilie Dan Dumitru Enache Lenuța „Process and installation for obtaining alofibres from aluminium metal wastes” Patent nr. 130345, 30.06.2015
17. Velea Teodor, **Predica Vasile** „Sulfurous concentrates with lead content processing „method”, Patent nr.125314, 08.08.2007

**LIST OF PAPERS PRESENTED AT SCIENTIFIC SESSIONS, SYMPOSIA AND CONGRESS**

1. Teodor Velea, **Vasile Predica**, Adrian Parparita, Liliana Gherghe “Base metals recovery from by products and waste waters resulting from a cooper plant” . Conference Recycling and waste treatment in mineral and metal processing: Tehnica land economic aspect 16-20 June 2002 Lulea Suedia
2. Teodor Velea, L. Gherghe, **V. Predică**, Alain Adjemian, Carlos Frias, “Recycling of lead batteries – new concept”, ASEM Workshop on EU/Asia S&T Co-operation on Clean Technologies, Hanoi, Vietnam, 3 – 6 November, 2004
3. “Technology for copper recovery from slag resulted at thermal refining of blister copper”, Symposium “REWAS”, Madrid , 26 – 29 September 2004
4. Teodor Velea, Vasile Predica, Liliana Gherghe “Friendly environment technology for processing of sulphate-oxidic paste from spent batteries ” LEAD &ZINC 05 Japan, Tokyo, October 2005
5. T. Velea, D-tru. Stoica, Liliana Gherghe, **V. Predica**, “ Techniques regarding SO<sub>2</sub> removal from gaseous emissions resulted from extractive metallurgy of non ferrous metals” Proceedings National Conference of Metallurgy and Materials Science, ROMAT 2006 ,Bucharest, Romania, 28-29 sept. 2006, pag. 351-356
6. T. Velea, **V. Predica**, L. Gherghe, D. Stanciu, M. Gheorghită, „Lead recovery from lead-acid spent batteries using a hydrometallurgical technology” Conference Excellence Research -a Way to E.R.A. Braşov 2007
7. Teodor VELEA, **Vasile PREDICA**, Liliana GHERGHE, Doina STANCIU, Maria GHEORGHITĂ, ZsuZsana KOVACS, Aurel VARNA “Bio-oxidizing of lead concentrate” Conference Excellence Research -a Way to E.R.A. Braşov 2007
8. Teodor Velea, **Vasile Predica**, Liliana Gherghe “ New hydrometallurgical technology for processing of lead sulfide concentrates” Proceedings European Metallurgical Conference EMC 2007 June 11-14,2007, Vol.4, pg 2066 Dusseldorf Germany
9. T. Velea, **V. Predica**, L. Gherghe “A new hydrometallurgical technology for processing copper concentrates” Proceedings The Sixth International Copper-Cobre Conference Toronto 2007, The John E. Dutrizac Symposium on Copper Hydrometallurgy, Vol. IV, pg 221-230
10. T. Velea, **V. Predica**, L. Gherghe, D. Stanciu, M. Gherghită, “Electrolytic recovery of lead from alkaline solutions” Proceedings Conference Excellence Research -a Way to Innovation Braşov 2008, Vol. II, pag 188/1-6
11. T. Velea, **V. Predica**, L. Gherghe, D. Stanciu, M. Gherghită, Z. Kovacs, A. Varna “ New Eco-Biotechnology to Recovery Lead from sulfide concentrates” Proceedings Conference Excellence Research- a way to Innovation Braşov 2008, Vol II, pag 190/1-6
12. Teodor Velea, **Vasile Predica**, Doina Stanciu, Cristian Predescu, Ecaterina Matei “Evaluation of pollution potential of slags resulted from primary lead fabrication at ROMPLUMB – Baia Mare” Proceedings National Conference of Metallurgy and Materials Science, ROMAT 2008 ,Bucharest, Romania, 25-28 sept. 2008, pag. 359-364
13. Liliana Gherghe, Teodor Velea, **Vasile Predica**, Silvana Onisei, “Purification of spent sulfuric acid from the batteries recycling in view of recovery” Proceedings National Conference of Metallurgy and Materials Science, ROMAT 2008 ,Bucharest, Romania, 25-28 sept. 2008, pag. 283- 288
14. T. Velea, D. Stanciu, L. Gherghe, **V. Predica**, “Research highlights of INCDMNR-IMNR in the field of non-ferrous heavy metals contaminated soils “round table on “CONTAMINATED SITES” – a new challenge for Romania of Sanitation, Ministry of Environment and Sustainable Development – General Branch of Soils, Underground, Wastes Management”, Mamaia, 01 – 02 sept. 2008
15. Teodor Velea, **Vasile Predica**, Liliana Gherghe, Andrzej Chmielarz “ Oxidation of copper sulfides from low grade concentrates with high carbon content” Proceedings European Metallurgical Conference EMC 2009, June 28-July 1, 2009, Innsbruck, Austria, Vol. 2, pag 771-778
16. S. Onisei, Y: Pontikes, T. van Gerven, G.N. Angelopoulos, T. Velea, **V. Predica**, P. Moldovan, “Geopolymers from lead slag and fly ash” Workshop Geopolymers for waste valorisation at K.U.Leuven, Department of Metallurgy and Materials Engineering, 2010 Belgium
17. S. Onisei, Y. Pontikes, T. van Gerven, G. N. Angelopoulos, T. Velea, **V. Predica**, P. Moldovan, „Alkali activation of lead slag for building materials’ production” ” Workshop Geopolymers for waste valorisation at K.U.Leuven, Department of Metallurgy and Materials Engineering, 2011Belgia
18. T. Velea, D. Stanciu, **V. Predica**, S. L. Gherghe, R. Krebs “Characterization and chemical stabilization of slag containing heavy metals before disposal” ICCE 2011 Zurich, 13<sup>th</sup> EuChemMs International Conference on Chemistry on the Enviroment, Switzerland, 11-15 sept.2011

19. Velea Teodor, **Vasile Predica**, Liliana Gherghe “Eco innovation in hydro-copper concentrates processing” Conference Proceedings Copper Metallurgy 50<sup>th</sup> Anniversary of KGHM Polska Miedz S.A., 26-28 oct.2011, Krakow 2011, Poland, pp 287-295
20. Teodor VELEA, **Vasile PREDICA**, Dragoș TALOI, Sândica Liliana GHERGHE “Oxidizing of copper concentrate” FRAY International Symposium, On metals and materials Processing in a clean environment, 27 Nov.-01 Dec. 2011-11-24, Fiesta Americana Condesa, Cancun, Mexico
21. S.L. Gherghe, T. Velea, **V. Predica**, I. Codita, S. Deevski, „Microwaves ecofriendly alternative for a safe treatment of medical waste”, Workshop dedicated to World Environment Day”, June 5, 2012, at Romanian Academy, Bucharest.
22. Teodor VELEA, **Vasile PREDICA**, Dragoș TALOI, Liliana GHERGHE, Viorel BĂDILIȚĂ, Silvana ONISEI, “Ecofriendly environment technology for copper, zinc and lead valorisation from low grade complex concentrate”, Proceeding of The XV Balkan Mineral Processing Congress & Exhibition (BMPC) 2013, Sozopol, Bulgaria, June 12-16, 2013
23. Andreea Ioana Chirea, Teodor Velea, Eleonora Luminița Mara, Alexandra Georgiana Moise, **Vasile Predica**, Dumitru Valentin Drăguț, Mihai Ghiță, Ana Maria Mocioiu: “Research on Complex Characterization of Hazardous Chemical Wastes Containing Chromium”, The 19<sup>th</sup> edition of International Symposium “Environment and Industry”, 13-14 Octombrie 2016, Bucuresti, Romania;
24. Alexandra-Georgiana Moise, Teodor Velea, Luminița Mara, Ioana Andreea Chirea, **Vasile Predica**, Daniel-Cristian Mihăiescu, Valentin Draguț, Mihai Ghiță “Complex Characteristics Evaluation of Different Types of Wastes Containing Iron Regarding the Environment Impact of Their Storage” The 19<sup>th</sup> edition of International Symposium “Environment and Industry”, 13-14 Octombrie 2016, Bucuresti, Romania;
25. A.G. Moise, T. Velea, C. Predescu, L. Mara, A. Chirea, **V. Predica**, L. Gherghe, C. Rusti, V. Draguț: “Technological Process of Iron Recovery From Mining and Metallurgical Industry Effluents” The 6<sup>th</sup> International Conference on Materials Science and Technologies – RoMat 2016”, 9-12 Noiembrie, 2016, Bucuresti, Romania;
26. A. Chirea, T. Velea, C. Predescu, I. Calinescu, L. Mara, **V. Predica**, G. Moise, L. Gherghe, M. Ghita, V. Draguț “Microwave-Assisted Leaching of Chalcopyrite Concentrate in Ferric Sulphate Media” The 6<sup>th</sup> International Conference on Materials Science and Technologies – RoMat 2016”, 9-12 Noiembrie, 2016, Bucuresti, Romania;

#### LIST OF PUBLISHED PAPERS

1. Teodor Velea, Liliana Gherghe, **Vasile Predica**, Rolf Krebs “Heavy metal contamination in the vicinity of an industrial area near Bucharest”, Environ Sci Pollut Res (2009) 16 (Suppl 1):S27–S32
2. T. Velea, **V. Predica**, L. Gherghe, M. Gheorghită „Investigations on waste lead-acid accumulators” Romanian Journal of Automatic ISSN 1454-9077, Vol. XIX – nr.1
3. Dragoș Taloi, Ion Constantin, Liana Maria Vlăduțiu, Liliana Taloi, Teodor Velea, **Vasile Predica**, “Mathematical modeling for optimization of lead electrodeposition from alkaline solutions” Revista de Chimie, July 2009, Vol. 60, 724 -727
4. P. Lungu, Ana Lungu, N. Georgescu, M. Magureanu, I. Mustata, - INFPLR T. Velea, D. Stanciu, **V. Predica** – IMNR (CO) “Plasma treatment of leigated materials and saturated waters” Romanian Journal of Physics, Vol.54, No. 3-4 369-375 Bucharest, 2009, (published by Publishing House of the Romanian Academy, included in Science Citation Index Expanded™ and Journal Citation Reports™
5. CP Lungu, N. Mustata, N. Georgescu, A.M. Lungu, V. Zaroschi – INFPLR, T. Velea, D. Stanciu, **V. Predica** - IMNR “Aqueous Solution Purification by Bubbling Underwater Discharges” Advances in plasma science/Osaka University, Vol. 7, 2009 pp 1-7
6. Silvana ONISEI, Petru MOLDOVAN, Luminița MARA, **Vasile PREDICA**, Cornelia LUPU, “Influence of mechanical activation on the kinetics of non ferrous metal sulfides oxidation” University Politehnica of Bucharest Scientific Bulletin Series B: Chemistry and Materials Science 2010, Vol. 72, 183-192
7. Ghiță M. Stoiciu F. Bădiliță V. **Predica V.** Enache L. “Chemical and mineralogical characterization of residues from recycling of accumulator batteries wasted” Romanian Journal of Mineral Deposits, Sept. 2010, Vol. 84, 71- 73
8. Teodor Velea, **Vasile Predica**, Liliana Gherghe, Dragoș Taloi, Luminița Mara, Cornelia Lupu “Leaching of nonferrous metals from oxidized low grade complex concentrate” Environmental Engineering and Management Journal, 2011
9. Teodor Velea, **Vasile Predica**, Sandica Liliana Gherghe, Dragoș Taloi, Luminița Mara, Adriana Ispas, Elena Ruxandra Chiurtu, Oxidation of low grade complex concentrate in aqueous medium, Rev.Chim. 64, No 10, 2013, 1083-1088;

10. Teodor Velea, , Dragoș Taloi, **Vasile Predica**, Sandica Liliana Gherghe, Luminița Mara, Adriana Ispas, Elena Ruxandra Chiurtu  
Establishing the optimal parameters for the aqueous oxidation of sulphurous concentrates with lead content, Rev.Chim. 64, No 11, 2013, 1270-1274;

#### PRIZES, DISTINCTIONS,

- Gold Medal for the innovation: "Technology for processing of copper sulphide concentrate" The Belgian and International Trade fair for Technological INNOVATION - Eureka 2007 Brussel
- Silver medal for the innovation "Technology for lead recovery from sulphate – oxide secondary resources with lead content", The Belgian and International Trade Fair for Technological Innovation, Brussels, November 2007;
- Gold Medal for patent "Method to exploit the lead from secondary sulfate-oxide resources with a lead content," International Salon of Inventions and Technologies - INVENTIKA, Bucharest, October 2008;
- Gold Medal for patent „Procedeu de purificare a acdului sulfuric uzat și valorificarea lui sub formă de gips pur”, International Exhibition of Inventions, Scientific Research and New Technologies Expoziția internațională de invenții, cercetare științifică și tehnologii noi - INVENTIKA, Bucharest, October 2009;