

Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) **Badilita Viorel**
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E-mail vbadilita@imnr.ro, vbadilita@yahoo.com
Nationality Romanian
Date of birth 05.04.1950
Gender Male

Desired employment / Occupational field **Characterization of inorganic and metallic materials, and minerals by X-Ray Powder Diffraction (XRPD) methods**

Work experience

Dates January 1998 - onwards
Occupation or position held Head of Nuclear Unit: X-Ray Diffraction Laboratory (RENAR Accreditation for nanobiomaterials)
Main activities and responsibilities Coordination of research activities concerning characterization of inorganic and metallic materials, and minerals by X-Ray Powder Diffraction (XRPD) methods.
 RENAR Accreditation of XRD Lab., specific procedures editing.
 Training of students and young researchers in XRPD field
Name and address of employer National R&D Institute for Nonferrous and Rare Metals, Bucharest
Type of business or sector Research and development in nonferrous and rare metals

Education and training

Dates Sep. 2007
Title of qualification awarded Certificate
Principal subjects/occupational skills covered Specialist in utilization of Bruker D8 Advanced Diffractometer and DIFRACplus BASIC software
Name and type of organisation providing education and training BRUKER AXS, Karlsruhe, Germany
Dates Apr. 2007
Title of qualification awarded Certificate
Principal subjects/occupational skills covered Specialist in radiologic security
Name and type of organisation providing education and training National Institute of Physics and Nuclear Engineering "Horia Hulubei", Nuclear Training Centre (CPSDN), Magurele, Romania
Dates Mar. 1987
Title of qualification awarded Certificate
Principal subjects/occupational skills covered Interactive elaboration of the calculus programs in FORTRAN 77 language

Name and type of organisation providing education and training | Informatics training centre, Bucharest, Romania

Dates | 1969 - 1973

Title of qualification awarded | BSc in Physics

Principal subjects/occupational skills covered | General Physics, Atomic and Nuclear Physics

Name and type of organisation providing education and training | Physics Faculty, University of Bucharest

Dates | 1973 - 1974

Title of qualification awarded | MSc in Nuclear Physics

Principal subjects/occupational skills covered | Nuclear Reactor Physics, Neutron Diffraction

Name and type of organisation providing education and training | Physics Faculty, University of Bucharest

Personal skills and competences

Mother tongue(s) | Specify mother tongue (if relevant add other mother tongue(s), see instructions)

Other language(s)

Self-assessment

European level (*)

English

French

Russian

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
B1	Independent user	B1	Independent user	A2	Basic user	A2	Basic user	A2	Basic user
B2	Independent user	B2	Independent user	B1	Independent user	B1	Independent user	B1	Independent user
B2	Independent user	B2	Independent user	B2	Independent user	B1	Independent user	B1	Independent user

Social skills and competences | Teamwork in various types of research teams for national and international projects.
Establishing and maintaining proper working relationships.
Rigorous, responsible, organized person.
Analyst developed capacity.
Oriented approach towards solving and completing specific problems.

Organisational skills and competences | Member of the Scientific Council of INCDMNR (2005-to present)
Responsible for some national projects.

Technical skills and competences | Fine structure analysis using XRPD methods: mean crystallite size, internal tensions, dislocation density.
Thermal methods for materials analysis and characterisation.
Complex characterisation of inorganic technological waste.
Structural characterisation of nanocrystalline materials.
Structural and thermal stability characterisation of metastable materials.
Reaction mechanisms analysis during chemical synthesis.
Reaction kinetics studies using XRD and thermodifferential analysis.

Computer skills and competences | Competent user of Microsoft Office programs.
Competent user of XRPD specialized software: DIFRACplus BASIC, TOPAS, etc.

Driving licence | Driving license, category B.

Additional information | Scientific consulting and coordination on experimental side of structural characterizations for graduates and PhD students from the Faculty of Materials Science and Engineering
Over 70 scientific communications and papers.

Annexes | 1. List of national and international projects (selection).
2. List of publications (selection).

LIST OF NATIONAL AND INTERNATIONAL PROJECTS (SELECTION)

Project	Position	Period
ANSTI grant: Structure-properties correlations in new Al-based nanocrystalline and duplex structure alloys	project responsible	1999 - 2000
Orizont 2000 Programme+COOP BIL.: Heavy metals immobilisation in ceramic and construction materials	participant	2000
PHARE Project no. TTQM RO 9602-02-02-L031: Joint Research and Development of PTCR Thermistors Based on Doped BaTiO ₃ for Heating Sources with Low Energy Consumption	participant	1999 - 2001
RELANSIN Programme: Post-combustion catalyst devices for internal combustion engines exhaust depolluting in agreement with European norms Euro II and Euro III	participant	2000 - 2001
NATO Project Science for Peace - Bruxelles no SFP974054: Zirconia Nanomaterials: Zirconia-based nanomaterials development for applications using electrochemical and mechanical properties	participant	2000 - 2002
RELANSIN Programme: New technologies for Al alloys casting with gaseous models	participant	2000 - 2003
RELANSIN Programme: Non-polluting treatment technology for industrial muds with heavy metals content for recycling and reducing environment pollution	participant	2000 - 2003
RELANSIN Programme: Fabrication technology of Ni - W - Si - B - Fe - C system metallisation powders for layers with wear protection controlled properties	participant	2000 - 2003
RELANSIN Programme: New sintered products obtained by Co recycling from waste and hard alloys	participant	2000 - 2003
RELANSIN Programme: New sensors based on nanostructured materials for toxic gases detection	participant	2000 - 2003
RELANSIN Programme: Complex procedure of Cu, Zn extraction from non-conventional raw materials by metals immobilisation in construction materials	participant	2002 - 2003
RELANSIN Programme: Structured ceramic materials with special applications	participant	2002 - 2003
RELANSIN Programme: New corrosion- and wear-resistant metal-ceramic composite materials for special industrial applications	participant	2003 - 2004
INVENT Programme: Pb recycling technology implementation from waste with Pb content	participant	2001 - 2004
MATNANATECH Programme: Piezoceramic materials based on perovskitic powders and thin films obtained by hydro-thermal / electro-chemical procedures	participant	2001 - 2004
EU-RO Contract 64/26.09. 2002, MK -RO/2002: Microfabrication process development of components from materials with functional gradient	participant	2002 - 2004
FP5 CLEAN LEAD GROWTH-NAS: Pb recycling from sulphate-oxidic waste	participant	2002 - 2004
CLEANLEAD - RO: Development and implementation of a technological concept new in Europe and Romania regarding Pb recycling from secondary sources	participant	2002 - 2004
CRAFT METMICOATED G5ST - CT2002 - 50328	participant	2002 - 2004
MENER Programme: New technological concept for efficient and ecological processing of Pb concentrates	participant	2003 - 2004
MATNANTECH: Advanced technologies for biocompatible nanocomposite powders synthesis and processing - BIONANOCOM	participant	2003 - 2005
MATNANTECH 124-301/2003: Ceramic nanostructures grown on Ti	participant	2004 - 2006
MATNANTECH 192-401/2004: Ti-hydroxylapatite composite realised by electrophoresis for medical applications	participant	2004 - 2006
FP6: Biotechnology for Metal Bearing Materials - BIOMINE	participant	2004 - 2008
RELANSIN: Al-waste ecological processing system with complete recycling of process waste	participant	2004-2006
CEEX Programme: Processing methods of residual ashes in secondary Al industry to prevent environment pollution and to preserve natural resources	participant	2005-2008
CEEX46/2005: Integrated technological network for advanced biocompatible structure research for dental implants (RETEbetaDENT)	participant	2005 - 2006
Fond Nucleu 2006: Studies and research on the methods to investigate the impact on the environment of the dump waste from Al thermal metallurgy	project responsible	2006
CEEX 14/2005: New catalyst materials to depollute the industrial gaseous effluents	participant	2006 - 2008
CEEX 12/2005: Anorganic-organic hybrid nanostructures based on serpentine and vinyl polymers to obtain advanced composites	participant	2006 - 2008
CEEX: Accreditarea unui laborator pentru analiza chimica si fizica a nanobiometrialelor NANOBIOATLAB	participant	2006 - 2008
Fond Nucleu 2007 - 2008: Studies regarding the development of a complex method for experimental investigation for the polluting potential and industrial reconversion possibilities of slags from Al metallurgy	project responsible	2007 - 2008
PNCDI2: Hybrid nanostructured materials for sensors with potential use in therapy and diagnosis HINAMASENS	participant	2007 - 2010
PNCDI2: New types of flexible solar cells based on CIS compounds obtained through electro-deposition	participant	2007 - 2010
PNCDI2: Nanostructured aluminum alloys with high physical-mechanical characteristics	participant	2008 - 2011
PNCDI2: Micro and nanostructured zirconia based compositional graded materials for termo-resistant structures with application in energetic and aeronautics	participant	2008 - 2011
FP7-228814-2: SUPERSONIC deposition of nanostructured surfaces	participant	2009 - 2013

LIST OF PUBLICATIONS (SELECTION)

Papers

1. R. M. Piticescu, V. Bădiliță, D. Taloi:
Cercetări privind modelarea matematică a procesului de sinteză hidrotermală a BaTiO₃ din precursori peroxidici solubili ai Ti(IV)
Materiale de construcții, vol. XXIX, nr. 4, 1999, ISSN: 1583-3186
2. R. R. Piticescu, V. Bădiliță, C. Bogdănescu:
Influența parametrilor asupra sintezei chimice a pulberilor de ZrO₂ nanocristalini
Materiale de construcții, vol. XXIX, nr. 4, 1999, ISSN: 1583-3186
3. R. M. Piticescu, M. Preda, D. Taloi, V. Badilita
PLSnZT nanoceramics obtained by a sol-gel colloidal process
British Ceramic Proceedings, ISSN: 0268-4373, Vol: , Issue: 60, Date: 1999, p. 239
4. Roxana M.Piticescu, C.Bogdanescu, V.Badilita, F.Stoiciu:
Interphase reactions in metal-ceramic composites with core shell structure
Materiale de Constructii, 4, p. 267-272 (2001)
5. R.R. Piticescu, R.M.Piticescu, V. Bădiliță
Novel Chemical Synthesis Routes and Process Modelling of Nanostructured Ceramic and Composite Materials
Micro and Nanotechnologies Bulletin, vol.3, No.4, pp. 9, Dec. 2002
6. R. M. Piticescu, R. R. Piticescu, D. Taloi, Viorel Badilita:
Hydrothermal synthesis of ceramic nanomaterials for functional applications.
Nanotechnology, vol. 14 (2003) pp. 312 – 317, ISSN 0957-4484
7. R.M. Piticescu, A. M. Moisin, D. Taloi, V. Badilita, I. Soare:
Hydrothermal Synthesis of ultradisperse PZT powders for polar ceramics
J. Eur. Ceram. Soc., Vol. 24, pp.931-935 (2004), ISSN 0955-2219
8. Maria Roman, Viorel Badilita, Lucia Firescu, Florin Stoiciu, Ioan Mărginean, C-tin Bratu:
Preliminary researchs on metalurgical value of wastes of secondary aluminium industry
Buletinul Institutului Politehnic din Iași, Tomul LI (LV), Fasc.3, 2005, Secția Știința și Ingineria Materialelor, editat de Universitatea Tehnică „Gh. Asachi” Iași, ISSN 1453-1690, pag. 251-256
9. M. Roman, V. Bădiliță, Romanița Teodorescu, I. Mărginean, Monica Făgărășanu, L. Mărginean
Researches of recycling romanian secondary aluminum industry by- products
Scientific Bulletin of the „Politehnica” University of Timisoara, Transactions on Mechanics, Tom 51 (65), Fascicola 2, 2006, ISSN 1224-6077, pag.165-170
10. A. Sarbu, Luminita Mara, F. Stoiciu, V. Badilita, V. Fruth, H. Iovu, Stefania Motoc, Liliana Sarbu, Mariana Beda
La Valorisation des amas de serpentinite par la nanotechnologie. Partie I – Obtention de la silice poreuse
Scientific Study & Recherche, Vol. VII(I), pp. 311 – 320, 2006, ISSN 1582-540X
11. M. Roman, Viorel Bădiliță, et al.
Influența proceselor tehnologice asupra matricei mineralogice a reziduurilor tehnologice rezultate din industria aluminiului secundar (Influence of technological process on mineralogical matrix of technological wastes from secondary aluminium industry)
Revista de Turnătorie nr. 3-4, 2007 CZU 621.74 (051) ISSN 1224-21-44 , pg. 16-20
12. Maria Roman, Viorel Bădiliță, Romanița Teodorescu, Lucia Firescu, Maria Gheorghe
Some results of researches of soluble salt removing from secondary aluminium dross / salts slag
Buletinul Institutului Politehnic din Iași, Tomul LIII (LVII), Fasc.4, 2007, Secția Știința și Ingineria Materialelor, ISSN 1253-1690, pg.231
13. M. Dăncilă, I. Utea, V. Bădiliță
The influence of admixture of Al₂O₃ on the ZnO-TiO₂ sorbent of sulphurization regeneration through oxidation in air at high temperature (Influența adaosului de Al₂O₃ asupra regenerării prin oxidare cu aer la temperatură înaltă a sorbanților de desulfurare de tip ZnO-TiO₂)
Rev. Chim. (București), Vol 58, Nr. 7, Iulie 2007, pag. 640 – 645, ISSN: 00347752
14. C.Fratila, V. Badilita, I. Roman, A. Ioncea, Elena Neagu
Obținerea unui amestec hidroxiapatita-fosfat tricalcic destinat realizării compozitelor metaloceramice pentru implantologie
Rev. Chim. (București), Vol 58, Nr. 8, August 2007, pag. 720 – 724.
15. R. M. Piticescu, L. M. Popescu, A. Meghea, V. Badilita, E. Vasile
Development of new ternary nanostructured hybrids
Molecular and Liquid Crystals ISSN1542-1406, 483 (2008), 216-227
16. Ghiță M., Stoiciu F., V. Bădiliță, V. Predica:
Chemical and mineralogical characterization of residues from the recycling of accumulator batteries wasted
Romanian Journal of Mineral Deposits , 2010, Vol. 84, pp. 71÷73
17. Cornelia Marinescu, Ancuta Sofronia, Cristina Rusti, Roxana Piticescu, Viorel Badilita, Eugeniu Vasile, Radu Baies and Speranta Tanasescu:
DSC investigation of nanocrystalline TiO₂ powder
J. Therm. Anal. Calorim., Vol. 103, No. 1, 2010, pp. 49-57
18. V. Soare, M. Burada, D. Mitrica, V. Badilita, F. Stoiciu, C. P. Lungu, V. Ghenescu, M. I. Rusu, S. Antohe:
Electrodeposition and characterization of CuInSe₂/CdS multilayered thin film deposited on flexible substrat

19. V. Soare, I. Surcel, D. Mitrica, F. Stoiciu, V. Badilita, M. Radu, P. Moldovan:

AlSiMg/SiC_p Fabrication through RGI Method

Metallurgy and New Materials Researches, Vol. XVIII, No. 4, 2010, pp. 23-34

20. V. Soare, D. Mitrică, V. Bădiliță, I. Constantin, M. Târcolea, G. Popescu

Experimental models for processing of nanostructured aluminum master alloys

Metallurgia International, XVI (4):33-37 / 2011, ISSN 1582-2214

21. D. Mitrica, V. Soare, M. Burada, V. Badilita, Victoria Soare, I. Constantin, P. Moldovan, G. Popescu

Melt spinning process for nanostructured AlSr master alloy obtaining

Metallurgy and new materials researches, vol. XIX, no. 2/2011, ISSN 1221-5503

22. V. Soare, M. Burada, D. Mitrica, I. Constantin, V. Badilita, M. Tarcolea, V. Ghenescu, S. Antohe, C. P. Lungu:

Electrodepunerea de Filme Subtiri Policristaline CuInSe₂ pentru Aplicatii Fotovoltaice

Metallurgy and New Materials Researches, depus pe 28.10.2010

23. V. Soare, I. Surcel, G. Popeneciu, V. Badilita, F. Stoiciu, V. Soare, D. Mitrica, M. Burada:

Caracteristici fizico-structurale ale alijului stocator de hidrogen Ti_{0.8}Zr_{0.2}Cr_{1.2}Mn_{0.8}

Metallurgy and New Materials Researches, depus pe 11.11.2010

24. M. Popescu, R. Piticescu, E. Vasile, D. Taloi, M. Petriceanu, M. Stoiciu, and V. Badilita:

The Influence of Synthesis Parameters on FeO(OH) / Fe₂O₃ Formation by Hydrothermal Techniques

Zeitschrift fuer Naturforschung B – Chemical Sciences, vol. 65b, 2010, pp. 1024-1032

25. L. M. Popescu, R. M. Piticescu, T. Buruiana, S. Simion, E. Vasile, R. Trusca, and V. Badilita:

A New Approach for the Synthesis of Nanostructured Polyurethane-Hydroxylapatite-based Hybrid Materials Synthesis

Zeitschrift fuer Naturforschung B – Chemical Sciences, vol. 66b, 2011, pp. 36-42

Proceedings

1. R. Focșa, V. Bădiliță și alții.

The Aluminium and Nickel Influence on Structure and Morphology of CuSn10 Bronze Powder Particles obtained by Atomisation with Water

Proceedings of International Conference on Powder Metallurgy - RoPM 96, pp. 273 – 282, 1996, Cluj - Napoca Romania

2. M. Piticescu, V. Bădiliță, și alții:

Solid phase reactions involved in the formation of compounds from ternary pseudosistem PbO.TiO₂ – PbO.SnO₂ – PbO.ZrO₂.

Proceedings of 4th Ceramic International Conf., 22-25 September 1998, Eskizekir, Turkey, Vol. II., pp. 539 - 544, Ed. S.Turan, F.Kara, E.Putun

3. R. M. Piticescu, V. Bădiliță, și alții,

Barium titanate hydrothermal synthesis from soluble Ti(IV) peroxide precursors

Proceedings of Int. Conf. Mat. Science & Engineering, BRAMAT '99, Brașov, Romania, 3-5 February 1999, vol. IV, pp.44-48, ISBN 973-98797-0-5, Ed. Univ. Transilvania, ISBN-973-98797-0-5

4. R.R.Piticescu, V. Badilita

Formation of nanocrystalline zirconia powders in hydrothermal NaOH-H₂O₂ solutions

Proceedings of Int. Conf. Mat. Science & Engineering BRAMAT 99, Brasov, Romania, 3-5 February 1999, vol. IV, pp. 55-59, Ed. Univ. Transilvania, ISBN-973-98797-0-5

5. R. R. Piticescu, V. Bădiliță și alții

Influence of the synthesis parameters on the physical - chemical properties of zirconia nanopowders

A XXVII - a Sesiune de Comunicări Științifice cu Participare Internațională, Academia Tehnică Militară, București, Romania, 21 - 22 oct. 1999, pp. 203 - 210

6. R. M. Piticescu, M. Preda, D. Taloi, V. Badilita

PLSnZT nanoceramics obtained by a sol-gel colloidal process

British Ceramic Proceedings, ISSN: 0268-4373, Vol: , Issue: 60, Date: 1999, p. 239

7. R.R. Piticescu, C. Monty, V. Badilita, A. Motoc, S. Axinte

Hydrothermal synthesis of zirconia nanomaterials for ion conducting applications

Proceedings of International Semiconducting Conference CAS 2000, Sinaia, Romania, 10-15 October 2000, vol. 2, pp. 449-452

8. I. Marginean, Maria Roman, Lucia Firescu, Fl. Stoiciu, V. Bădiliță:

Some Aspects of Recycling Romanian Aluminum Industry by - Products

Proc. of Int. Conf. on Mat. Science & Engineering, BRAMAT 2005, Brașov, Romania, 24-26 February 2005, ISBN 973 – 635 – 454 – 7, pag. 334.

9. R.M. Piticescu, R.R. Piticescu, V. Bădiliță, C. Monty, F. Sibieude, W. Lojkowski

Chemical Synthesis of Nanostructured Powders and Films with Controlled Properties

Proc. of Int. Conf. on Mat. Science & Engineering, BRAMAT 2005, Brașov, Romania, 24-26 February 2005, ISBN 973 – 635 – 454 – 7

10. Maria Roman, Viorel Badilita, Romanita Teodorescu, Lucia Firescu

Researches on influence of technological process on mineralogical matrix of technological wastes from secondary aluminium industry

Proc. of Int. Conf. on Mat. Science & Engineering, BRAMAT 2007, Section 2: Materials Science and Surface Engineering, ISSN1223-9631, pag. 124, Brașov, Romania

11. Surcel, V. Soare, V. Badilita, D. Gheorghe, C. Serghe:

Advanced Aluminium Alloy with High Physical – Mechanical Characteristics, for Aeronautical Constructions Applications

Proc. of: The Sixth International Congress in Materials Science and Engineering , Romanian Academy of Technical Sciences The „Gh. Asachi” Technical University Iasi, Faculty of Materials Science and Engineering ,24-27.V.2007

12. Maria Roman, Viorel Badilita, Romanița Teodorescu, Lucia Firescu

Studiu privind posibile reacții chimice în procesul de obținere a sulfatului de aluminiu din zguri rezultate din reciclarea aluminiului secundar

International Symposium Mineral Resources and Environment Engineering, Ed. Univ. de Nord, Baia Mare, 2008, ISBN 978-973-1729-74-9, p. 37

Patents

1. Patent No. 103718 / 31.01.1991: *Procedeu de obținere a aliajelor din sistemul Fe- Ti- Mn (Fe –Ti –Mn Alloys Obtaining Procedure)*
2. Patent registered request OSIM: No. A /00990/03.10.2010: *Procedeu de prelucrare a serpentinei, produse și instalație (Serpentine Processing Method: products and equipment)*
3. Patent registered request OSIM: No. A00965 / 28.09.2011: *Procedeu de prelucrare a deșeurilor industriale de noroi roșu cu utilizarea apelor de proces (Red Mud Industrial Waste Processing Method using Technological Process Water)*