



Europass Curriculum Vitae



Personal information

First name(s) / Surname(s) **Dumitru BARBOS**
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Telephone(s) +40721219688, +40348416473
Fax(es) +40248262449
E-mail dumitru.barbos@nuclear.ro
Nationality Romanian
Date of birth 10/02/1956
Gender Male

Work experience

Dates(from – to) From September 1981 to March 2010
Occupation or position held Senior Researcher, Head of Neutron Activation Analysis Laboratory
Main activities and responsibilities Experimental study of the material composition using the nuclear techniques: Instrumental Neutron Activation Analysis (INAA) and Gamma-ray Spectrometry;
Neutron flux and spectrum measurements in nuclear reactors and materials irradiation devices;
Design and engineering of irradiation devices for experiments and material irradiations;
Development and characterization of thermal neutron column;
Development and characterization of Prompt Gamma Neutron Activation Analysis Facility;
Characterization of nuclear fuel behavior through underwater gamma ray spectrometry;
Development of reference neutron spectra irradiation facilities;
Safeguard deputy officer;
Main activities and responsibilities Responsible of the full work provided by the group
Name and address of employer Institute for Nuclear Research, Pitesti, Romania
Type of business or sector Research

Education and training

Dates From November 2002 to May 2008
Title of qualification awarded PhD in Physics
Principal subjects/occupational skills covered Nuclear Physics
Name and type of organisation providing education and training Faculty of Physics, Babes-Bolyai University, Cluj, Romania
Level in national or international classification Post Univ. Degree
Dates From September 1980 to July 1981
Title of qualification awarded Romania Master of Science

Principal subjects/occupational skills covered: Nuclear Physics
 Name and type of organisation providing education and training: Faculty of Physics, Babes-Bolyai University, Cluj,
 Level in national or international classification: Post Univ. Degree
 Dates: From September 1976 to July 1980
 Title of qualification awarded: Bachelor of Science, Dipl. Physicist
 Principal subjects/occupational skills covered: Nuclear Physics
 Name and type of organisation providing education and training: Faculty of Physics, Babes-Bolyai University, Cluj, Romania
 Level in national or international classification: University Degree

Personal skills and competences

Team spirit (Teamwork in experimental activities)
 Ability to work in multicultural environments (work on international projects)

Mother tongue(s): Romanian

Other language(s): **English, French**

Self-assessment
 European level (*)

English

French

Understanding				Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production			
C(1)	Proficient user	B(2)	Independent user	B(2)	Independent user	B(2)	Independent user	B(2)	Independent user
B(1)	Independent user	B(1)	Independent user	B(1)	Independent user	B(1)	Independent user	B(1)	Independent user

(*) [Common European Framework of Reference for Languages](#)

Social skills and competences

Communication skills
 I am a communicative and dynamic person, always in time, with a strong team spirit. I also have the challenge spirit and the wish to win together with my partners.
 I have humor sense, no preconceived ideas, I am wishful to learn new things. These features, along with my education make me join easily into a team.

Organisational skills and competences

Project & team management (project coordination)

Technical skills and competences

Information technology skills (work on computers, programming)
 Skills in concept & Design of experimental devices

Computer skills and competences

Work on computers, programming;
 Windows, MS Office, Labview code, neutron physics code, MathCad code

Driving licence

Category B

Additional information

Membership of professional organizations: Romanian Physical Society
 References:
 Prof.Dr. Constantin Cosma –Babeş Bolyai Univ., Cluj-Napoca
 e-mail: cosmac@enviro.ubbcluj.ro
 Prof.Dr. Romulus Tetean –Babeş Bolyai Univ., Cluj-Napoca
 e-mail: rote@phys.ubbcluj.ro
 Prof.Dr.Alexandru Jipa-University of Bucharest
 e-mail: jipa@brahms.fizica.unibuc.ro
 Marin Ciocănescu – Director INR Pitesti
 e-mail: marin.ciocanescu@nuclear.ro

Annexes

List of papers and communications

Signature

Date

Annexe 1: Papers and communications

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|----|--|--|---|
| 1 | Magnetic properties of $x\text{CoO}(1-x)$ [$2\text{B}_2\text{O}_3\text{PbO}$] glasses | I. Ardelean, Gh. Ilonca
D.Bărbos | Solid State Communications, Vol. 39,Ed.12
pp 1345 - 1346, Sept.1981 |
| 2 | Magnetic properties of $x\text{NiO}(1-x)$ [$2\text{B}_2\text{O}_3\text{PbO}$] glasses | I. Ardelean, Gh. Ilonca,
D.Bărbos , H.Adams | Solid State Communications, Vol. 40,Ed.7,
pp 769 - 770, Sept.1981; |
| 3 | EPR and magnetic susceptibility studies of $x\text{Cr}_2\text{O}_3-(1-x)3\text{B}_2\text{O}_3-\text{PbO}$ glasses | <i>I. Ardelean, Gh. Ilonca,</i>
D.Bărbos | Journal of Materials Science, Vol.17, No.7,
July1982. |
| 4 | Preliminary results on dating some ancient ceramics from Romania by means of thermoluminiscece | C. Cosma, V. Benea,
A. Timar, D. Bărbos
C. Păunoiu | Radiation Measurements,
Vol41(2006),No.7-8,987-990 |
| 5 | Comparative performance of nuclear INAA and other spectroscopy techniques in elemental analysis of stainless steel materials | Em. Cincu, Ioana Manea, V.
Manu, D. Bărbos , O. Sima,
I. Gustavsson, P.
Vermaercke, Nora Vajda,
Zsuzsanna Molnar , Halina
Polkowska-Motrenko | J.of Radioan. and Nucl. Chem.,Vol.274
No.1(2007), 199-205 |
| 6 | The advantageous way of getting the lowes uncertainty values of elemental concentration by INAA | Em. Cincu, D. Bărbos ,
I.Manea, V. Manu | J.of Radioanal and Nucl.Chem.
Vol271, No.3, March 2007 |
| 7 | Preparation and characterization of rhenium-loaded PLLA nanoparticles for radionuclide intra-tumoral therapy | Misara Hamoudeh, H.
Salim, D. Bărbos , H. Fessi - | The European Journal of Pharmaceutics
and biopharmaceutics, Vol.67, (3,2007
Nov.2007, Pag.597-611 |
| 8 | Holmium-loaded PLLA nanoparticles for intra-tumoral radiotherapy via the TMT technique: Preparation, characterization and stability evaluation after neutron irradiation | M.Hamoudeh, H.Fessi,H.
Salim; D. Bărbos | Drug Development and Industrial
Pharmacy, Volume 34, Issue 8, August
2008 , pages 796 - 806 |
| 9 | The Prompt Gamma Neutron Activation Analysis Facility at ICN- Pitesti | D.Bărbos , C.Păunoiu,
M.Mladin, C. Cosma | American Institute of Physiscs Conf. Proc.
-August 14, 2008 -- Volume 1036, pp. 180-
185; |
| 10 | A Possible Tool for Checking Errors in the INAA Results, Based on Neutron Data and Method Validation | <i>Em. Cincu, Ioana Manea</i>
Grigore, D.Bărbos , I. L.
Cazan, V. Manu | American Institute of Physiscs Conf. Proc.
-August 14, 2008 -- Volume 1036, pp. 180-
185; |
| 11 | Application of the INAA technique for elemental analysis of metallic biomaterials used in dentistry | Em Cincu, L. Crăciun, Ioana
Manea–Grigore, I.L. Cazan,
V. Manu, D. Barbos and A.
Cociș | Applied Radiation and Isotopes, Volume
67, Issue27, December2009, 2133-2136 |
| 12 | Determination of α and f parameters at the 14-MW TRIGA reactor at Pitesti, Romania | D.Bărbos , C.Păunoiu, Cs.
Roth | Nucl.Instr.&Meth. Seria A, (2010),
doi:10.1016/j.nima.2010.04.002 |
| 13 | Multi-element determination by neutron induced prompt gamma ray analysis | D. Bărbos , M. Mladin, A.
Datcu | <i>Studia, Physica, Univ. Babeş-Bolyay, SI 1,</i>
<i>XL VIII, 2003</i> |
| 14 | Gamma and beta spectroscopy study on neutron activated vitreous | <i>D.Cacaina, D.Bărbos, H.</i>
<i>Ylänen, S.Simon</i> | <i>Studia, Physica, Univ. Babeş-Bolyay, L(2),</i>
<i>2005, 81-86</i> |
| 15 | Persistence of neurological cretinism in old endemic goiter areas of the carpathian | <i>A.Toma, B.Diaconu, D.</i>
Barbos | <i>Acta Endocrinologica, Vol.1(3), Iul-</i>
<i>Sept2005, 311-324</i> |
| 16 | Estimation of environmental radionuclide concentration in soil, comparison of methods for the annual radiation dose determination in luminescence dating | <i>A. Timar, C.Cosma, R.</i>
<i>Begy, A Jobbagy, G.</i>
<i>Szeiler, D.Bărbos, D. Fulea,</i>
<i>V. Benea</i> | <i>Studia Universitatis Babeş-Bolyai,</i>
<i>Geologia, Vol.52 Ed.1/2007</i> |

17	Neutron physics related experimental facilities at the Romanian TRIGA reactor	Cs. Roth, M. Preda, D. Bărbos , I. Ioniță, M. Dinică	Proceedings of the enlargements workshop of Neutron, Measurement Evaluation and Applications, NEMEA-2, 20-23, Oct. 2004, Bucharest, Edited by A.J. Plompen, ISBN 92-894-8618-X
18	Reactor neutron activation analysis using Zr foil	C. Păunoiu, D. Bărbos	4 th International K ₀ - users workshop, 11-14 Sept 2005, Funchal, Portugal
19	Neutron activation analysis on slurry resulted from waste water conditioning	D. Bărbos , C. Păunoiu	International workshop IWIRAD, Bucharest, June 2005
20	High resolution gamma ray spectrometry and neutron activation analysis lab.	D. Bărbos , C. Păunoiu	International workshop IWIRAD, Bucharest, June 2005
21	Application of the nuclear analytical technique INAA on biomaterials used in Dentistry	E. Cincu, D. Bărbos	2 nd International Conference on Biomaterials and Medical Devices BiomMedD'2006, 09-11 Nov 2006, Iasi, Conference Proceedings, ISBN 973-718-566-8, 162
22	Create an experim. model for BNCT in hematoma bearing rats	I. Gruia, D. Bărbos , R. Anghel, F. Constantin	Internat. Workshop on fast neutron therapy- Essen, 14-16 Sept. 2006
23	Results of 14MW research reactor core conversion measured at low power	M. Ciocănescu, M. Preda, C. Toma, D. Bărbos , C. Iorgulis	The RRFM-2007 International Topical Meeting on Research Reactor Fuel Management, 11 – 15 March, 2007, Lyon, FRANCE
24	14MW TRIGA Research reactors a neutron source for materials investigation	D. Bărbos , M. Ciocănescu, C. Păunoiu	Strategic Planning for sustainability- Mediterranean Region March 19-22, 2007
25	Assuring quality in neutron data evaluation by using a validation method INAA application	E. Cincu, I. Manea, D. Bărbos , I. L. Cazan	Intern. Workshop "Nuclear Proficiency 2007" in applic. Of ionizing radiat. & nuclear analytical tech in industry, med. And environ. At high performance-Bucuresti, 6-9 Oct. 2007
26	Experimental results obtained from ILC exercises by the European INAA network in the ILC exercise on: a certified Reference Stainless Steel Material	E. Cincu, I. Manea, D. Bărbos , P. Vermaercke, Nora Vajda, Zsuzsanna Molnar, Halina Polkowska-Motrenko, C. Păunoiu	Intern. Workshop "Nuclear Proficiency 2007" in applic. Of ionizing radiat. & nuclear analytical tech in industry, med. And environ. At high performance-Bucuresti, 6-9 Oct. 2007;
27	The prompt gamma neutron activation analysis facility at ICN – Pitesti	D. Bărbos , C. Păunoiu	European Workshop on Boron Analysis and Boron Imaging in Biological Materials for BNCT, Bucurest, 23-25 Nov. 2007
28	Measurements and computations for neutron flux in TRIGA HEU core with four experimental LEU fuel clusters	C. Toma, D. Bărbos , M. Ciocănescu, P. Busuioc, L. Wittemore, P. Snelgrove	Intern. Meeting on reduced enrichment for research and test reactors, Sept. 27-Oct. 01, 1992, Roschild, Denmark;
29	Neutron flux measurement in the central channel (XC-1) of TRIGA 14MW LEU core	D. Bărbos , P. Busuioc, Cs. Roth, C. Păunoiu	4 th World TRIGA users conference, 08.09-10.09.2008, Lyon, France
30	Monitorisation of BNCT efficiency using biochemical oxidative stress and apoptosis parameters	M. I. Gruia, V. Negoită, M. Vasilescu, D. Bărbos , R. Anghel	13 th International Congress on Neutron Capture Therapy "A new option against cancer", 2-7 Nov, Florence, Italy, 2008;
31	Monte Carlo Shielding Comparative Analysis Applied to TRIGA HEU and LEU Spent Fuel Transport	C. A. Margeanu, S. Margeanu, C. Iorgulis, D. Barbos	-Advancements in Nuclear Instrumentation, Measurement Methods and their Applications, 7-10 June 2009, Marseille, France;
32	Application of the INAA Technique for Elemental Analysis of Metallic Biomaterials used in Dentistry	Em. Cincu, L. Crăciun, Ioana Manea –Grigore, I. L.	22 th Seminar Activation Analysis and Gamma-Spectroscopy, Vienna, SAAGAS22, Feb. 2009

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| 33 | α determination in the E ^(1+α) epithermal neutron spectrum at TRIGA 14MW reactor- | Cazan, V. Manu, D.Barbos ,
A. Cociş
D.Bărbos , C. Păunoiu, Cs.
Roth | 5th International k0-Users Workshop, Belo Horizonte, Brazil, 13-17 Sept,2009 |
| 34 | Metrology requirements for accurate elemental analysis by INAA | <i>Em. Cincu, M. Woods, D. Barbos, C. Paunoiu, Ioana Manea Grigore, I.L.Cazan, K. Heydom</i> | Second international proficiency testing conference, 15 – 18 Sept. 2009 – Sibiu, Romania |
| 35 | 7-HEU and LEU fuel shielding comparative study applied for spent fuel transport- | C.A. Margeanu, S. Margeanu, D.Bărbos | 7 th Conference on Nuclear and Particle Physics, 10-15 Nov.2009, Sharm_El-Sheikh, Egypt |
| 36 | The advantageous way in getting the lowest uncertainty values of elemental concentration by INAA-, | <i>Em. Cincu, D.Barbos, Ioana Manea , V. Manu</i> | Modern Trends in Activation Analysis MTAA -11', Guildford –Anglia, 20-25 iunie 2004 |