BORDEANU CRISTINA, Ph.D. in Nuclear Physics

Birth date and place: 2 June 1958, Bucuresti, ROMANIA , romanian.
Working place: CSII in DFN - tandem
NATIONAL INSTITUTE FOR PHYSICS AND NUCLEAR ENGINEERING – HORIA HULUBEI, Strada Reactorului 30, MAGURELE, JUD. ILFOV, ROMANIA,
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CURRICULUM VITAE/RESUME

First college

Electric Engineer
Politechnic, Electrotechnique College, Bucharest
MS Diploma in electrical engineering, 1982
Principal specialization: Industrial processes led by microprocessors

Second college

Technology Physicist
Physics College of the University from Bucharest
MS Diploma in Physics ,1994
Principal specialization: technology physics

PhD in Nuclear Physics

Nuclear Physics
Physics College of the University from Bucharest, 1998 , lead by Prof. Marius Petrascu
PhD Thesis title: ***"Neutron pre-emission investigation for the halo nuclei fusion ^{11}Li to Si***"

Work experience

	Institute	Field	Period	Position
1	IAEI-Titu	Engineer	1982-1983	Fresh engineer
2	ICPE	Engineer	1983-1987	Fresh engineer / system engineer
3	IFIN	Engineer	1987-1991	Technology engineer

4	IFIN	Nuclear Physics	1991-today	Researcher
5	RIKEN, Japan	Nuclear Physics	1998/ 3 months	Fellowship from the Ministry of Education, Culture, Sport, Science and Technology from Japan
6	Weizmann Institute of Science, Israel	Nuclear Physics and Nuclear Astrophysics	2000-2002	Postdoctoral fellow "The Edmond I. & Lillian S. Kaufman Postdoctoral Fellowship"
7	University of Washington, Seattle, SUA	Nuclear Astrophysics	2003-2005	Research Associate DOE
8	Western Michigan University, SUA	Radiation fields simulations	2008/ 1 month	APS-International Travel Grant Award/Research associate
9	ATOMKI, Debrecen, Hungary	Nuclear Astrophysics	2010-2012	NKTH-OTKA-EU FP7 (Marie Curie Actions) HUMAN-MB08 B

MEMBER IN DIFFERENT ORGANIZATIONS

Member of the American Physical Society from 2003.
Member of the Romanian Society of Physics from 2008.
Member of the European Society of Physics from 2010.

GRANTS – won through international competitions:

2008 16 July – TRAVEL GRANT WON THROUGH AN INTERNATIONAL COMPETITION from the **American Physical Society (APS**) for the 16 October – 16 November 2008 period, financial supported by a NATO grant and by the Romanian project PN 06 35 01 02 (IFIN-HH).
There are only two such competitions each year, at APS on INTERNATIONAL TRAVEL GRANT AWARD, and only two projects win the competition each time.
Goal: radiation fields calculations for an underground lab for Nuclear Astrophysics for the DUSEL project.
Contact person: dr. Michael Famiano from the Western Michigan University, Physics College.
Western Michigan University is on 181 position in the national hierarchy of the USA universities.

Other INTERNATIONAL COMPETITIONS/PROJECTS:

1998 – **3 months fellow at RIKEN, Japan, won in international competition,** at Ministry of Education, Culture, Sport, Science and Technology from **Japan**.
I worked in the group lead by Prof. Isao Tanihata.
Main themes:

- '*The half-life determination of* ^{44}*Ti using radioactive beam technique'*
- '*Sharp cut-off approximation for neutron pre-emission for* ^{11}*Be fusion with* ^{12}*C'.*

2000 –2002 2 ½ years on **postdoctoral fellowship won through international competition at** Department for Particle Physics, **PELLETRON, Weizmann Institute of Science (WIS), Israel**, "The Edmond I. & Lillian S. Kaufman Postdoctoral Fellowship".
I had been working with Prof. Michael Hass (WIS) and Prof. Michael Paul (from Hebrew University, Racah Institute of Physics, Jerusalem).
Main themes:

- ^{7}Be(p, γ)^{8}B
- ^{3}He(^{4}He, γ)^{7}Be
- ^{40}Ca(a, γ)^{44}Ti
- ^{7}Be detection through the AMS method (accelerator mass spectrometry)
- ^{244}Pu from sea sediments
- Accelerator technics.

*Weizmann Institute of Science, **as the** Academic Ranking of World Universities – 2011, is on the 93rd position in the world and the 3rd position in Israel.*
*Hebrew University, Racah Institute of Physics, Jerusalem, **as the** Academic Ranking of World Universities – 2011, is on the 53rd position in the world and the 1st in Israel.*

2003-2005 **2 ½ years on a Research Associate position, won through an international competition**, at the **Center for Experimental Nuclear Physics and Astrophysics**, University of Washington, Seattle, USA.
I had been working with Prof. Kurt Snover and Prof. Derek Storm, the technical director of the lab at that time.
Main theme: fulfilling the experiment ^{3}He(^{4}He, γ)^{7}Be.
*University of Washington, Seattle, **as the** Academic Ranking of World Universities – 2011, is on the 16th position in the world and on the 14th in the USA.*

*2010- **EuroGENESIS** (ESF) –**Project Investigator for the IP6 (individual project) from CRP3***, in a winning project at ESF (European Science Foundation); the Romanian PAC (Program Advisory Committee) didn't accept the two proposed experiments to be fulfilled at the Romanian accelerator TANDEM, cancelling the fulfilling of the experiments from the 'Program Nucleu' too. Although in the negotiation stage at ESF, I had to withdraw the project from EuroGENESIS.

2010-2012- I had been working on a mobility project HUMAN-MB08 B, 2 years, as Research associate, **Project Director and Principal Investigator, at ATOMKI, Debrecen, Hungary** as a result of winning in an international competition at **NKTH-OTKA-EU FP7 (*Marie Curie Actions*).**
Main theme: *High precision astrophysical factor measurement for the ^{3}He+^{4}He reaction which takes place in our Sun on a large energy scale*.
I had been working in the **Nuclear Astrophysics group**, lead by dr. Zsolt Fulop, the general director of ATOMKI.

My expertise as **electrotechnic engineer** consists in using the microprocessors for the industrial processes control, in the electromagnetic fields computations inside the electric drives as well. As an engineer, I was a theme responsible or a software responsible, for many projects at ICPE or IFIN, 1st department for nuclear instrumentation.

My expertise as a **physicist** is in Nuclear Physics using particle accelerators, and in neutron, charged particle and gamma radiation detection. I participated with my own

projects in national competition (no success) and in international competitions (with success).

While working, I got experience in detector characterization (for gamma radiation, neutrons and charged particles), in Monte Carlo simulations, in the experiment set-up design, in physical implementation for the experiment set-up, testing the experiment set-up, in DAQ (data acquisition) system design, in data analysis and results interpretation.

Other competences:

1984- Programming course - Diploma –very well

1988-Numerical Methods in Physics -course-Diploma

1989-FORTRAN for VAX -course –Diploma

1989-PASCAL (programming language) - course –Diploma

1985-1994 Physics College – Technology Physics - MS Diploma in Technology Physics

1995 - Advanced English (FIDES) - Diploma –very well

1995 - Summer school in nuclear Physics Predeal, Romania

I know programming in FORTRAN (PAW,GEANT), BASIC, PASCAL, ASSEMBLER, C.

I am accustomed to ORIGIN, EXCEL, MATHEMATICA, MATLAB, MATHCAD.

I can use WINDOWS, DOS, LINUX, MACINTOSH.

4 March 2013 – I graduated with exam a course for PROJECT MANAGEMENT and I posses now an

EUROPASS CERTIFICATE H 00062810

OTHER ACTIVITIES:

1982-1983 Enterprise for industrial electric apparata, Titu – **fresh engineer**

1983-1987 Institute for Research and Design for Electrotechnique , Bucharest – **fresh engineer & system engineer**

- electric control design for a step-by-step drive
- magnetic circuits optimization for electric drives
- designer engineer for the subway vehicles diagnosis for the Bucharest subway

1987-1995 National Institute for Physics and Nuclear Engineering , Bucuresti-Magurele – **engineer** and **technology engineer** in Nuclear Instrumentation Department
- software for the gaseous effluents monitor (equipment for the Cernavoda Nuclear Plant, Romania)
- digital instrument for non-destructive measurements of the layer thicknesses using the beta backscattering method

1991-1992,1997-1998,1998-1999, 2006 Electrotechnique College – Electrotechnique Basis, **assistent** for the Numerical Methods in Electrotechnique, seminar

2006- Nuclear Physics laboratory - spectroscopy, Physics College, Bucharest University, assistent

EDUCATION IN OTHER FOREIGN COUNTRIES:

- **CERN the 21st School on Computing on Physics**, September 1998, Madeira, Portugal

- In November 1998. the director of the school, dr. S.Y.Lee, accepted my participation at the **US Particle Accelerator School** from 18-28 January 1999, Vanderbilt University, Nashville, Tennesseee, by offering me a grant consisting in financial support for the school period, but the travel ticket. I had to pay roundtrip. I could not attend the school due to lack of ticket money.

- **CERN the 22nd School on Computing on Physics**, 12-25 September 1999, Stare Jablonky, Poland

- Erice, the 22nd **School on Radioactive beams in Nuclear and AstroPhysics**, 16-24 September 2000, Ettore Majorana Center in Erice, Sicily, Italy – I attended thanks to a grant from the European Physical Society.

- Santa Tecla, **The 1st European Summer School on Astrophysics**, 1-6 Oct. 2001, Sicily, Italy

- TRIUMF, **SNIT 2002**, 10-21 June 2002, Vancouver, Canada

- **2005 National Nuclear Physics Summer School**, Lawrence-Berkeley National Laboratory, Berkeley, California, June 6-17, 2005 (diploma)

FOREIGN LANGUAGES:

English, French

Dr. Cristina Bordeanu