

**FORMAT  
EUROPEAN  
CURRICULUM VITAE**



**INFORMATII PERSONALE**

Nume **BARAN VIRGIL**  
Adresa **Tatulesti 17, Bloc 83, Apartament 1, sector 4, Bucuresti**  
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Fax  
E-mail **virbaran@yahoo.com**  
Nationalitate **Romana, casatorit, doi copii**  
Data nasterii **18.01.1966, Tg-Carbunesti, Jud. Gorj**

**EXPERIENTA PROFESIONALA**

- Perioada **2002-2006, 2006-prezent**  
• Numele si adresa angajatorului **UNIVERSITATEA DIN BUCURESTI**  
• Tipul activitatii sau Sector de activitate **Activitate didactica si de cercetare stiintifica**  
• Functia sau postul ocupat **Conferentiar Universitar, Profesor Universitar**  
• Principalele activitati si responsabilitati **Cursuri Universitare : Mecanica Cuantica, Electrodinamica si teoria relativitatii, Istoria fizicii**  
**Cursuri la Masterat : Teoria sistemelor cuantice de particule identice, Teoria particulelor elementare si Introducere in Teoria cimpurilor, Fizica Nucleului atomic**  
**Indrumare teze de licenta, masterat, doctorat**  
**1990-2001;**  
**Institutul de Fizica si Inginerie Nucleara – Horia Hulubei**  
**Activitate de cercetare stiintifica;**  
  
**Asistent cercetare, Cercetator stiintific, Cercetator stiintific principal III, II asociat pe proiecte de cercetare cistigate prin competitie**  
**Activitate de cercetare in cadrul contractelor de cercetare, publicarea de articole stiintifice**
- Principalele activitati si responsabilitati

**EDUCATIE SI FORMARE**

- Perioada **1980-1984**  
• Numele si tipul institutiei de invatamant si al organizatiei profesionale prin care s-a realizat formarea profesionala **Liceul de matematica - fizica Tudor Vladimirescu, Tg-Jiu, Judetul GORJ**  
• Domeniul studiat/aptitudini ocupationale  
• Tipul calificarii/Diploma obtinuta **Bacalaureat**

• Nivelul de clasificare a formei de instruire/invatamant

• Perioada

• Numele si tipul institutiei de invatamant si al organizatiei profesionale prin care s-a realizat formarea profesionala

• Domeniul studiat/aptitudini ocupationale

• Tipul calificarii/Diploma obtinuta

• Nivelul de clasificare a formei de instruire/invatamant

• Perioada

• Numele si tipul institutiei de invatamant si al organizatiei profesionale prin care s-a realizat formarea profesionala

• Domeniul studiat/aptitudini ocupationale

• Tipul calificarii/Diploma obtinuta

• Nivelul de clasificare a formei de instruire/invatamant

#### APTITUDINI SI COMPETENTE

##### PROFESIONALE

Dobandite in cursul vietii si carierei dar care nu sunt recunoscute neaparat printr-un certificate sau o diploma.

LIMBA MATERNA

LIMBI STRAINE CUNOSCUTE

- abilitatea de a citi
- abilitatea de a scrie
- abilitatea de a vorbi

- abilitatea de a citi
- abilitatea de a scrie
- abilitatea de a vorbi

APTITUDINI SI COMPETENTE  
SOCIALE

APTITUDINI SI COMPETENTE  
ORGANIZATORICE

Mediu

1985-1990

Universitatea din Bucuresti, Facultatea de Fizica

Licenta

Superior

1991-1995

Institutul de Fizica si Inginerie Nucleara si IFA

Fizica Teoretica

Doctor in Fizica din 1995

OBS: in perioada 1999-2001 am cistigat o **bursa posdoctorala** in Italia, Univ. din Catania si INFN Italia

ROMANA

ENGLEZA, ITALIANA

Foarte Bine

Foarte Bine

Foarte Bine

FRANCEZA

Bine

Satisfacator

Satisfacator

Membru in Biroul Comisiei de Fizica a CNATDCU (2011-2012)

Director Departament Fizica teoretica, matematici, optica, plasma, laseri (din 2011)

Membru in comitetul de conducere (Steering Comitee) al Scolii doctorale internationale "Nuclear and Particle Astrophysics"

Director Centru de Cercetare Fizica Teoretica (acreditat CNCSIS), Univ. Bucuresti (din 2010)

Membru in Consiliul profesoral al Facultatii de Fizica, Univ. din Bucuresti, membru in Comisia

stiintifica a Facultatii (din 2004); Membru Senat UB  
Vicepresedinte Comisia 1 de Matematica si Stiintele Naturii a CNCSIS (2008-2011)  
Membru CSUD Universitatea de Vest din Timisoara

APTITUDINI SI COMPETENTE  
TEHNICE

ALTE APTITUDINI SI  
COMPETENTE

PERMIS DE CONDUCERE

## INDICATORI SINTETICI PRIVIND ACTIVITATEA STIINTIFICA SI DE CERCETARE:

**Peste 130 de lucrari stiintifice dintre care :**

**100 in Reviste ISI Internationale (inclusiv Physical Review Letters, Physical Review C, E,  
Physics Letters B, Nuclear and Hadronic Physics A, Physics Reports,  
Peste 35 de lucrari aparute in ultimii 5 ani)**

**40 aparute in extenso in Proceedings-uri ale unor conferinte internationale;**

**Lectie invitata la Gordon Research Conference, USA (2004)**

**Peste 2850 de citari in baza de date ISI (dintre care peste 2000 independente)**

**Factorul HIRSCH 29**

**Colaborari stiintifice cu grupuri de cercetare de la Univ. Oxford, Univ. din Munchen, Univ. din  
Beijing, Univ. din Catania si Napoli, Univ. din Caen, Univ. din Cracovia.**

**Referent Stiintific la mai multe Reviste Internationale**

**Experienta manageriala : director (coordonator) sau membru in echipe de cercetare proiecte de  
cercetare**

*CNCSIS, CEEEX si PNII 2005-2008, 2006-2009*

*Director proiect PNII IDEI 2007-2010*

*Director proiect PNII IDEI 2011-2014*

*Contracte de cercetare stiintifica internationale (director) : 2 (cu INFN Italia)*

*Membru in comitet de organizare Conferinta Internationala si Secretar*

*Stiintific – Predeal International Summer School in Nuclear Physics 2006*

*Membru in Colaborari (Proiecte) Internationale cu Univ. din Catania, Napoli, GSI :*

*CHIMERA, ISOSPIN, DIPOLE, ASYEOS*

*Carti, capitole de carti, monografii :*

- 1) **"Reaction Dynamics with Exotic Nuclei" , 130 de pagini, ELSEVIER, 2005**  
Autori: **Baran V**, Colonna M, Greco V, M. Di Toro  
**PHYSICS REPORTS 410, 335-466 – ISI impact factor=22**
- 2) **"Pre-equilibrium Hot Giant Dipole Resonance excitation in N/Z asymmetric nuclear reactions"**  
Autori: **Baran V**, Chomaz Ph, Colonna M, M. Di Toro  
**Chapter 8, pag. 223-238, in book „Isospin Physics in Heavy Ion Collision at Intermediate energy"**  
Nova Science Publisher. New York (2001)
- 3) **Collective motion and phase transitions of nuclear systems, 600 pagini**, World Scientific,  
Proceedings of International School "Collective Motion and Phase Transitions in Nuclear Systems" 2006  
ed. A. A. Raduta, **V. Baran**, A. C. Gheorghe, I. Ursu
- 4) **Collective Motion and Phase Transitions in Nuclear Systems,**  
**Proceedings, Romanian Journal of Physics, nr 7-8 (2007),**  
ed. A.A. Raduta, **V. Baran**, I.Ursu, A. C. Gheorghe
- 5) **"Probing the nuclear symmetry energy with heavy-ion collisions" (47 pagini, topical review)**  
M. Di Toro, **V. Baran**, M. Colonna, V. Greco  
IOP Publishing, J. Phys. G:Nucl. Part. Phys 37 (2010)

## Lucrari Stiintifice Rezentative :

- 1) **Baran V**, Colonna M, Greco V, M. Di Toro  
*Reaction Dynamics with Exotic Nuclei*  
PHYSICS REPORTS 410 335-466 (2005)  
**319 citari ISI**
- 2) **V. Baran**, M. Colonna, M. Di Toro, V. Greco, M. Zielinska-Pfabe, H.H. Wolter  
*Isospin effects in nuclear fragmentation*  
Nucl. Phys. **A703** (2002) 603-632  
**144 citari ISI**
- 3) **V. Baran**, M. Colonna, M. Di Toro and A.B. Larionov  
*Spinodal decomposition of low-density asymmetric nuclear matter*  
Nuclear Physics **A 632** (1998) 287-303  
**127 citari ISI**
- 4) **V. Baran**, M. Colonna, M. Di Toro, V. Greco  
*Nuclear Fragmentation: Sampling the Instabilities of Binary Systems*  
Physical Review Letter **86** (2001) 4492-4495  
**64 citari ISI**
- 5) **V. Baran**, D.M. Brink, M. Colonna, M. Di Toro  
*Collective Dipole Bremsstrahlung in Fusion Reactions*  
Phys. Rev. Lett. **87** (2001) 182801  
**37 citari ISI**
- 6) Liu Bo, V. Greco, **V. Baran**, M. Colonna, M. Di Toro  
*Asymmetric nuclear matter: The role of isovector scalar channel*  
Physical Review **C 65**, (2002) 155-161  
**153 de citari ISI**

## LISTA LUCRARI ISI 2009-2012

- 1) E. de Filippo ,...**V. Baran** et al  
*Correlations between emission time scales of fragments and isospin dynamics in  $^{124}\text{Sn} + ^{64}\text{Ni}$  and  $^{112}\text{Sn} + ^{58}\text{Ni}$  reactions at 35 A MeV*  
Physical Review **C 86** , 014610 (2012)
- 2) **V. Baran**, M. Colonna, M. Di Toro, R. Zus  
*From multifragmentation to neck fragmentation: mass, isospin and velocity correlations*  
Physical Review **C 85**, 054611 (2012)
- 3) **V. Baran**, B. Frecus, M. Colonna, M. Di Toro  
*Pygmy dipole resonance: collective features and symmetry energy effects*  
Physical Review **C 85**, 051601 (2012)
- 4) **V. Baran**, B. Frecus, M. Colonna, M. Di Toro  
*Collective dipole modes in nuclear systems*  
Romanian Journal of Physics, **57**, 36-48 (2012)
- 5) C. Parascandolo,.. **V. Baran** et al.  
*Investigation of the dynamical dipole mode in the Pb192 mass region*  
Acta Physica Polonica **B 42**, 629-632 (2011)
- 6) M. Di Toro, .. **V. Baran** et al.,  
*Symmetry energy effects on the mixed hadron-quark phase at high baryon density*

Physical Review C **83**, 014911 (2011)

- 7) C. Rizzo, **V. Baran** et al.,  
*Symmetry energy effects on fusion cross sections*  
Physical Review C **83**, 014911 (2011)
- 8) I. Baran ,..., **V. Baran**, et al.,  
*Fluorescence properties of quercetin in human leukemia jurkat T-cells*  
Romanian Journal of Physics, **56**, 388-398 (2011)
- 9) I. Baran ,..., **V. Baran**, et al.,  
*Effects of Menadione, Hydrogen Peroxide, and Quercetin on Apoptosis and Delayed Luminescence of Human Leukemia Jurkat T-Cells*  
Cell Biochemistry and Biophysics, **58**, 169-179 (2010)
- 10) M. Di Toro, **V. Baran**, M. Colonna, V. Greco  
*Probing the nuclear symmetry energy with heavy-ion collisions*  
Journal of Physics G-Nuclear and Particle Physics **37**, 083101 (2010)
- 11) J. Wilczynski, ..., **V. Baran** et al.,  
*Aligned breakup of heavy nuclear systems as a new type of deep inelastic collisions at small impact parameters*  
Physical Review C **81**, 067604 (2010)
- 12) P. Russotto, ..., **V. Baran** et al.,  
*Strong enhancement of dynamical emission of heavy fragments in the neutron-rich Sn124+Ni64 reaction at 35AMeV*  
Physical Review C **81**, 064605 (2010)
- 13) M. Di Toro, ... **V. Baran** et al.,  
*Probing the nuclear matter at high baryon and isospin density with heavy ion collisions*  
International Journal of Modern Physics E-Nuclear Physics **19** 856-868 (2010)
- 14) S.Plumari, **V. Baran** et al.,  
*Does the NJL chiral phase transition affect the elliptic flow of a fluid at fixed eta/s ?*  
Physics Letters B **689**, 18-22 (2010)
- 15) M. Colonna, **V. Baran**, M. Di Toro, V. Greco  
*Dynamical Phase Trajectories in Baryon and Isospin Density Spaces*  
Nuclear Physics A **834**, 527c-530c (2010)
- 16) K. Schmidt,.. **V. Baran** et al.  
*Light fragments production and isospin dependences in Sn+Ni and Sn+Al central collisions at 25AMeV and 35 AMeV from Reverse/Isospin experiments*  
Acta Physica Polonica **B 41**, 387-392 (2010)
- 17) J. Wilczynski, ..., **V. Baran** et al.,  
*Observation of fast collinear partitioning of the Au197+Au197 system into three and four fragments of comparable size*  
Physical Review C **81**, 024605 (2010)
- 18) A. Corsi, **V. Baran**, et al.,  
*Excitation of the dynamical dipole in the charge asymmetric reaction O-16+Sn-116*  
Physics Letters B **679**, 197-202 (2009)
- 19) D. Pierrousakou,..., **V. Baran** et al.,  
*Dynamical Dipole Mode in fusion reactions at 16 MeV/nucleon and beam energy dependence*  
Physical Review C **80**, 024612 (2009)
- 20) E. De Filippo,.. **V. Baran** et al.  
*Dynamical signals in fragmentation reactions: time scale determination from three fragments correlations by using The 4pi Chimera multidetector*  
Acta Physica Polonica **B 40**, 1199-1207 (2009)
- 21) **V. Baran**, C. Rizzo, M. Colonna, M. Di Toro, D. Pierrousakou  
*Dynamical dipole mode in fusion reactions with exotic nuclear beams*  
Physical Review C **79**, 021603 (2009)

- 22) M. Di Toro, **V. Baran**, et al.  
*Isospin dynamics in heavy ion collisions: From Coulomb barrier to quark gluon plasma*  
Progress in Particle and Nuclear Physics, **62**, 389-401 (2009)
- 23) I. Baran ..., **V. Baran**, et al.,  
*Effects of nocodazole and ionizing radiation on cell proliferation and delayed luminescence*  
Romanian Journal of Physics, **54**, 557-567 (2009)
- 24) I. Baran, C. Ganea, **V. Baran**  
*Numerical studies on the activity of the muscle calcium channel*  
Romanian Reports in Physics, **61**, 547-554 (2009)
- 25) Skwira-Chalot I, ..., **V. Baran** et al.,  
*Fast Ternary and Quaternary Breakup of the Au-197+Au-197 System in Collisions at 15 MeV/nucleon*  
Physical Review Letters **101**, 262701 (2008)
- 26) M.Colonna, **V. Baran** et al.,  
*Isospin distillation with radial flow: A test of the nuclear symmetry energy*  
Physical Review C **78**, 064618 (2008)
- 27) M. Di Toro, ... **V. Baran** et al.,  
*Constraining the symmetry energy: a journey in the isospin physics from Coulomb barrier to deconfinement*  
International Journal of Modern Physics E-Nuclear Physics **17** 1799-1814 (2008)
- 28) I. Baran, C. Ganea, **V. Baran**  
*A two-gate model for the ryanodine receptor with allosteric modulation by caffeine and quercetin*  
European Biophysical Journal with Biophysics Letters **37** 0271-6 (2008)
- 29) J. Rizzo, M. Colonna, **V. Baran**, et al.  
*Isospin dynamics in peripheral heavy ion collisions at Fermi energies*  
Nuclear Physics A **806**, 79-104 (2008)
- 30) B. Martin, ..., **V. Baran**, et al.,  
*Excitation of the dynamical dipole in the charge asymmetric reaction O-16+Sn-116*  
Physics Letters B **664**, 47-51 (2008)
- 31) J. Wilczynski, ... **V. Baran** et al.,  
*Re-separation modes of Au-197+Au-197 system at sub-Fermi energies*  
International Journal of Modern Physics E-Nuclear Physics **17** 41-52 (2008)
- 32) M. Di Toro, ... **V. Baran** et al.,  
*The dynamical dipole radiation in dissipative collisions with exotic beams*  
International Journal of Modern Physics E-Nuclear Physics **17** 110-119 (2008)
- 33) R. Planeta, ..., **V. Baran** et al.,  
*Centrality dependence of isospin effect signatures in Sn-124+Ni-64 and Sn-112+Ni-58 reactions*  
Physical Review C **77**, 014610 (2008)
- 34) M. Di Toro, **V. Baran**, et al.  
*Isospin dynamics in heavy ion collisions: EoS-sensitive observables*  
Nuclear Physics A **787**, 585c-594c (2007)
- 35) M. Papa, ..., **V. Baran** et al.,  
*Dynamical multi-breakup processes in the (124)Sn+(64)Ni system at 35 MeV/nucleon*  
Physical Review C **75**, 054616 (2007)
- 36) E. De Filippo, ... **V. Baran** et al.  
*Dynamics of "binary" Au-197+(197)Au collisions as a test of energy dissipation mechanism*  
Acta Physica Polonica **B 38**, 1509-1514 (2007)
- 37) Skwira-Chalot I, ..., **V. Baran** et al.,  
*Ternary reactions in Au-197+Au-197 collisions revisited*  
International Journal of Modern Physics E-Nuclear Physics **16** 511-515 (2007)

## SELECTION OF INVITED TALKS (2008-2013)

**V. Baran** “*BCS-type solution for chiral symmetry breaking in quark droplets*”

International workshop pairing Correlations in Strongly Interacting Fermi Systems: from Nuclei to Neutron Stars, 25 September 2008  
(invited speaker)

**V. Baran** “*Dynamical approaches to chiral symmetry breaking*”

Nuclear dynamics from giant resonances to quark deconfinement  
Workshop in honor of the 70th birthday of Massimo Di Toro  
18-19 septembrie 2009 (invited talk)

**V. Baran** “*From multifragmentation to neck fragmentation: new dynamical effects*”

International Workshop on Multifragmentation and related topics  
Catania, Italy 2009 4-7 November (general invited speaker)

**V. Baran** “*Symmetry energy from nuclear reaction dynamics*”

International symposium on Nuclear Symmetry Energy  
RIKEN, Wako, Japan 2010 July 26-28 (invited speaker)

**V. Baran** “*Kinetic approaches to phase transitions in strongly interacting matter*”

Conference on Advanced Many-Body and Statistical Methods in Mesoscopic Systems  
Constanta, Romania, 2011 June 27-July 02 (invited speaker)

**V. Baran** “*Collective features of nuclear dynamics with exotic nuclei within microscopic transport models*”

International Nuclear Physics Conference 2013  
Firenze, Italy, 2013 June 2-June 7 (invited speaker)

*V. Baran*