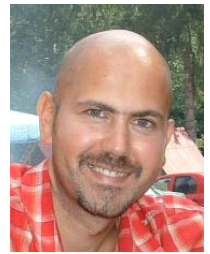


# Cristian M. RADUȚĂ

Nascut: 26 iulie, 1972, Bucuresti, Romania

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## EXPERIENTA:

**Institutul de Fizica si Inginerie Nucleara,**

*Departamentul de Fizica Teoretica*

*Cercetator*

*Cercetator Principal 3 (CP3)*

- cercetare in fizica nucleara teoretica (a se vedea lista de publicatii atasata)

**Bucuresti, Romania**

*sept. 1996 - aprilie 2005*

*aprilie 2005 - Prezent*

**The Ohio State University**

*Graduate Teaching Assistant*

- predat mai multe laboratoare si seminarii de fizica
- interviuri cu studentii pentru a detecta misconceptiile in Mecanica, E&M si Mecanica Cuantica

**Columbus, Ohio, US**

*sept 1998 - aprilie 2003*

**The City University of New York (CUNY)**

*Graduate Teaching Assistant*

- predat mai multe laboratoare de fizica

**New York, NY, US**

*sept 1997- iunie 1998*

## EDUCATIE:

**Universitatea Bucuresti**

*Doctor in Fizica (Summa Cum Laudae)*

**Bucuresti, Romania**

*decembrie 2005*

**The Ohio State University**

*MBA (specializare in Finante)*

**Columbus, Ohio, US**

*iunie 2002*

**The Ohio State University**

*MS (Master of Science)*

**Columbus, Ohio, US**

*aprilie 2000*

**Universitatea Bucuresti**

*Master in Fizica*

**Bucuresti, Romania**

*iunie 1997*

**Universitatea Bucuresti**

*Licentiat in Fizica (media generala: 9.92/10)*

**Bucuresti, Romania**

*iunie 1996*

## ACTIVITATI SI REALIZARI IMPORTANTE:

- **Autor** a mai multe lucrari de fizica publicate in reviste prestigioase – a se vedea lista de publicatii
- **Autor** a mai multe carti
- **1-ul clasat** la primul examen de doctorat (*The Qualifying Exam* – The Ohio State University)
- Absolvit facultatea de fizica pe **locul al 2-lea** din 360 studenti.
- **Calificat de 6 ori consecutiv la faza nationala a Olimpiadei de Fizica** unde am obtinut constant pozitii fruntase (de ex.: Premiul 2 pe tara in clasa a 8-a) – singurul din Bucuresti care a reusit aceasta performanta (1985-1991)
- Biografia acceptata pentru publicarea in **a 10-a editie aniversara (2008-2009)** a prestigioasei publicatii americane *Who's Who in Science and Engineering* (*Marquis Who's Who*)

## LIMBI STRAINE:

*Limba materna:*

*romana*

*Alte limbi:*

*engleza – fluent*

*franceza – mediu*

*italiana – satisfactor*

## COMPUTER:

Internet, Microsoft Office, Pascal, Fortran, Eudora Pro, Corel, Photoshop, Macromedia

## ALTE INTERESE:

Tenis, ping-pong, ski, biliard, inot; calatorii; economie/business;

## **COMUNICARI MEDIA:**

- 2 interviuri *live* la TVR 2 despre cartea mea “2 ani in America” dar si despre experienta mea ca student graduat in SUA.
- Personal life story and accomplishments featured in the “**Daily Herald,**” **Paddock Publications**, No 245, June 16, 1999
- *Lansare carte* “Vin Maimutele/low cost& high margin”, Libraria Teatrului National, Bucuresti, august 2005

## **ALTE CURSURI:**

**Diploma de Absolvire**, Abilitati avansate de negociere (in Rompetrol).

**Diploma de Absolvire**, Landmark Forum Education – curs de dezvoltare personala

## **PUBLICATII & CERCETARE**

1) “Two possible improvements for pnQRPA: Application to the  $2\nu\beta\beta$  decay”, A.A.Raduta, **C.M.Raduta**, *Czechoslovak Journal of Physics*, Vol. 48, (1998), No 2.

2) “Description of the  $2\nu\beta\beta$  decay within a fully renormalized RPA approach”, A.A.Raduta, **C.M.Raduta**, Amand Faessler, W.A.Kaminski, *Nuclear Physics A* 634, 497 (1998).  
*This paper has been already cited in 27 papers.*

3) “Toward a fully renormalized pnQRPA description of the  $2\nu\beta\beta$  decay”, A. A. Raduta, **C.M.Raduta** and I.I.Ursu, *Romanian Journal of Physics* 43, 1-2 (1998) 507

4) “Toward a new collective mode for proton-neutron interacting system”, A.A. Raduta, **C.M.Raduta** and B.Codirla, *Nuclear Physics A*, 678 (2000), 382.  
*Lucrarea poate fi consultata de asememea in LANL arXive la adresa nucl-th/0503041.*

5) “New results for the two neutrino double beta decay in deformed nuclei with angular momentum projected basis”, A. A. Raduta, **C. M. Raduta** and A. Escuderos, *Phys. Rev. C* 71 (2005) 034317.  
*Aceasta lucrare poate fi gasita in Nucl-Th arXive:*

“Description of the two neutrino double beta decay in deformed nuclei with projected spherical single particle states”, A.A. Raduta, **C. M. Raduta** and A. Escuderos, *Nucl-th/0412104*.

6) “New results for the fully renormalized proton-neutron quasiparticle random phase approximation”, **C.M. Raduta** and A. A. Raduta, *Nucl. Phys. A* 756 (2005) 153-175.

*Poate fi consultata pe internet la LANL arXive: nucl-th/0501003*

7) “Positive and negative parity dipole bands in octupole deformed nuclei”, A. A. Raduta, **C.M. Raduta** and Amand Faessler, *Phys. Lett. B*, 635 (2006) 80-84.

8) “Positive and negative parity bands in  $^{226}\text{Ra}$ ”, A. A. Raduta and **C. M. Raduta**, *Nucl. Phys. A* 768 (2006) 170-178.

9) “Simultaneous description of four positive and four negative parity bands”, A. A. Raduta, Al. H. Raduta and **C. M. Raduta**, *Phys. Rev. C* 74 (2006) 044312.

10) “Double beta decay to the first  $2^+$  state within a boson expansion formalism with a projected spherical single particle basis”, A. A. Raduta, **C. M. Raduta**, nucl-th/0612031, *Phys. Lett. B*, 647, (2007), pg 265-270.

11) “Description of four positive and four negative parity bands”, A. A. Raduta, **C. M. Raduta**, Lecture delivered at the International Summer School, *Collective Motion and Phase Transitions in Nuclear Systems, Predeal 2006, World Scientific, Singapore, eds. A. A. Raduta, V. Baran and I. I. Ursu, (pg 21-44).*

- 12) "Unified description of the double beta decay to the first excited quadrupole phonon state in spherical and deformed nuclei", **C. M. Raduta**, A.A.Raduta, **Romanian Progress in Physics, Volumul 59, Nr. 2, 2007, pg 577-587.**
- 13) "A general overview of the BCS formalism", **C.M. Raduta**, Thesis for the MS degree, The Ohio State University (OSU), Columbus, 2000 (preprint).
- 14) "General misconceptions related to Electricity and Magnetism", **C. M. Raduta**, OSU, April 2001 (preprint).
- 15) "American and Romanian student approaches to solving simple electric and magnetic problems", Gordon J. Aubrecht and **C. M. Raduta**, **AURCO J. 11, Spring 2005, p. 51-66.**
- 16) "A comparison between the styles Romanian and American students use to approach an E&M physics problem", Gordon Aubrecht and **Cristian Raduta**, in E. Moltó, ed., **Teaching Physics for the Future, Proceedings of the VIII IACPE (Havana, 2003), p. 527-532.**

*Aceasta lucrare se gaseste in LANL arXiv: physics/0503123*

- 17) "Cultural differences in answering physics questions: Could they arise from the difference between reasoning expected in answering exam questions in those cultures?", **C.M.Raduta** and G. Aubrecht, submitted to **Am. J. of Phys.**

*Aceasta lucrare se gaseste in LANL arXiv : physics/0503124*

- 18) "Contrasts in Student Understanding of Simple E&M Questions in Two Countries", Gordon J. Aubrecht II, **C. M. Raduta**, **AIP (American Institute of Physics) Conference Proceedings -- September 16, 2005 – Volume 790, pp. 85-88**

- 19) "Double beta decay to the first  $2^+$  state", *9th International spring seminar on nuclear physics: Changing facets of nuclear structure*, A. A. Raduta, **C. M. Raduta**, **Proceedings, World Scientific, editor A. Covello, Italy, Vico Equense, May 20-24, 2007.**

- 20) "Unified description of the double beta decay to the first quadrupole phonon state in spherical and deformed nuclei", **C. M. Raduta**, A. A. Raduta, **Phys. Rev. C 76 (2007) 044306.**

- 21) "Renormarea completa a ecuatiilor pnQRPA. Descrierea unificata a dezintegrarii  $2\nu\beta\beta$  a nucleelor sferice si deformate", **C. M. Raduta**, **teza de doctorat**, decembrie 2005

- 22) iunie 1997, **teza de masterat**, Universtatea Bucuresti,

- 23) "*Elements of Special Relativity*", A. A. Raduta, **C. M. Raduta**, **Editura Universitatii Bucuresti, (august 2007) (185 pag)**

- 24) "*Fundamente de teoria nucleului*", A. A. Raduta, **C. M. Raduta**, **Editura Universitatii Bucuresti, (octombrie 2007) (550 pag).**

- 25) "*New results for semiclassical description of the wobbling motion of a triaxial rotor with constraints*", A. A. Raduta, R. Budaca, **C. M. Raduta**, **Phys. Rev. C 76(2007) 064309.**

- 26) "Theoretical results and experimental projects for  $0\nu\beta\beta$  decay", A. A. Raduta, **C. M. Raduta**, **Czeh. Jour. of Phys. 50, 4 (2000) pg. 581.**

- 27) "Remarks on monopole charge properties within the generalized coherent state model", A. A. Raduta, **C. M. Raduta**, **Journal of Physics G:Nuclear and Particle Physics, 31, No. 1, 2009, 015114, 21 pages.**

- 28) "Coherent state model extension for the description of positive and negative parity bands in even-odd nuclei", A. A. Raduta, **C. M. Raduta** and Amand Faessler, **in press Phys Rev C** (corrected proofs submitted).

## **Conferinte:**

- 1) "Students' misconceptions related to Electricity and Magnetism", **C. M. Raduta**, OSU seminar, June 4, 2001 (talk)
- 2) "Student choices of models of the atom", Gordon J. Aubrecht, **C. M. Raduta**, Philip Walker, **AAPT** winter, OSU, **2002** (talk)
- 3) "A comparison between the styles Romanian and American students use to approach an E&M physics problem", Gordon Aubrecht and **C. M. Raduta**, in E. Moltó, ed., **Teaching Physics for the Future, Proceedings of the VIII IACPE (Havana, 2003)**
- 4) "US and Romanian students: the rest of the story, Gauss' Law", Aubrecht Gordon, **C. M. Raduta**, **American Physical Society, Fall Meeting of the Ohio Section**, Case Western Reserve Univ., October 17-18, **2003**
- 5) "Student understanding of forces on charges in magnetic fields", Gordon J. Aubrecht II, **C. M. Raduta**, **AAPT** summer, 2003
- 6) "Contrast between American and Romanian student approaches to solving magnetic force problems and trajectories", Gordon J. Aubrecht, **C. M. Raduta**, AURCO Sessions, **2004** (talk)
- 7) "Differences between American and Romanian student approaches to solving problems", Gordon J. Aubrecht, **C. M. Raduta**, 9-th Annual AURCO Conference, "Theories of intellect as an introductory Framework for Psychology", 28 oct. **2004**, Clermont College, Univ. of Cincinnati (invited talk)
- 8) "Student understanding of Gauss's Law and charged-particle trajectories in regions of magnetic field", Gordon J. Aubrecht, II, **C. M. Raduta**, Physics Education Research Conference (PERC) "The Practice of Analysis as a Window on Theory", August 6-7, 2003 (poster)
- 9) "Contrasts in student understanding of simple E&M questions in two countries", **C. M. Raduta**, Gordon J. Aubrecht II, **2004 PHYSICS EDUCATION RESEARCH CONFERENCE, "Transfer of learning", California State University, Sacramento, August 4-5, 2004, AIP (American Institute of Physics), Conference Proceedings -- September 16, 2005 -- Volume 790, pp. 85-88;**
- 10) "Double beta decay to the first  $2^+$  state", A. A. Raduta, **C. M. Raduta**, **9th International spring seminar on nuclear physics: Changing facets of nuclear structure**, Italy, Vico Equense, May 20-24, **2007, Proceedings, World Scientific, editor A. Covelio.**
- 11) "How Romanian and American students approach trajectories in a region of magnetic field", Gordon J. Aubrecht, **C. M. Raduta**, **CIAEF 2006 –IACPE University of Costa Rica, Department of General Studies, Department of Physics, San Jose, Costa Rica, IX Conference, 3-5 july 2006**
- 12) "Description of four positive and four negative parity bands", A. A. Raduta, **C. M. Raduta**, Lecture delivered at the International Summer School, **Collective Motion and Phase Transitions in Nuclear Systems, Predeal 2006, World Scientific, Singapore, eds. A. A. Raduta, V. Baran and I. I. Ursu, (pg 21-44).**

## **Carti**

- 1) "2 ani in America", **C.M.Raduta**, Editura Driada, noiembrie 1999
- 2) "Marketingul sau marea pacaleala," **C.M.Raduta**, Editura Miracol, noiembrie 2003
- 3) "Vin maimutele/Low cost & high margin", **C.M. Raduta**, Editura Minerva, noiembrie 2007
- 4) "Zodia mea, perechea mea", **C. M. Raduta**, in progres
- 5) "Elements of Special Relativity", A. A. Raduta, **C. M. Raduta**, Editura Universitatii Bucuresti, august 2007 (185 pag)

6) "Fundamente de Teoria Nucleului", A. A. Raduta, C. M. Raduta, Editura Universitatii Bucuresti, octombrie 2007 (550 pag)

## **PROIECTE/ GRANTURI**

### **A) Granturi in tara**

1. *Proprietati statice si dinamice ale nucleelor superdeformate, Simetrii noi pentru sisteme nucleare*  
**grant CNCSIS de tip A, 2006-2008, valoare: 90.000 RON.**  
*Membru in echipa de cercetare*

2. *Cercetari de frontiera in fizica nucleara si subnucleara*  
**Program Idei, termen de valabilitate 2007-2010, valoare: 1.000.000.**  
*Membru in echipa de cercetare*

3. *Stiinta si societatea: oferte si asteptari, acronim FAPT,*  
**Program Capacitati, Modul II, proiect nr 66CP II/14.09.2007, valoare 600 000**  
**RON, valabil in perioada 2007-2010.**  
*Membru in echipa de cercetare*

2. *Cercetari de excelenta in domeniul structurii nucleare si dezintegrarea beta dubla*  
**Program: Idei, Acronim: CEDSNDBD, Cod proiect: 7, 2007-2010,**  
**Valoare grant: 1.000.000 RON.**  
*Membru in echipa de cercetare*

3. *Proprietati semiclasice cuantice si simetrii ale structurii si dinamicii sistemelor nucleare si atomice*  
**Program : Nucleu , Cod proiect: PB-03-20-01-02, 2000,**  
**Valoare grant : 195.011 RON**  
*Membru in echipa de cercetare*

4. *Structura si dinamica sistemelor atomice si nucleare.* **Program: CERES, Cod proiect : 2-14/2002, 2002,**  
**Valoare grant : 329.891 RON**  
*Membru in echipa de cercetare*

5. *Asupra unor aspecte fundamentale ale structurii si dinamicii sistemelor atomice.*  
**Program: CERES, Cod proiect: 40189/2004, 2004, Valoare grant : 105.000 RON,**  
*Membru in echipa de cercetare*

6. *Structura nucleara, dezintegrarea beta dubla si dinamica proceselor de fuziune, fisiune si multifragmentare nucleara* **Program: Cex05-D11-0, Acronim: SNDBDDFFM, 2005, Valoare grant :1500000 RON,**  
*Membru in echipa de cercetare*

7. *Modele teoretice si matematice pentru descrierea unor aspecte fundamentale ale unor procese atomice si nucleare.* **Program: Cex05-D11-03, Acronim: MTMDAFPAN, 2005, Valoare grant: 750000 RON.**  
*Membru in echipa de cercetare*

8. *Studii avansate asupra miscarii colective a tranzitiilor de faza si a dinamicii proceselor de fuziune in sisteme nucleare complexe.* **Program IDEI, nr 1038, 2008, Valoare grant : 1.000.000 RON**  
*Director de proiect*

**La proiectele de mai sus am contribuit prin rapoarte de faza pe urmatoarele subiecte :**

- Descrierea dezintegrarea beta dubla in nucleee deformate cu o baza proiectata
- Descrierea dezintegrarii beta dubla pe stari excitate
- Descrierea benzilor de paritate negativa
- Descrierea cantitativa a opt benzi rotationale, patru de paritate pozitiva si patru de paritate negativa
- Renormarea completa a ecuatiilor pnQRPA cu respectarea regulii de suma Ikeda

- Descrierea miscarii de *wobbling* in nuclee triaxiale

**B) Granturi internationale:**

1. *Collective motion and phase transitions in nuclear many body systems. New features of the double beta decaying nuclei*, **grant DFG, valabil in intervalul 2007-2010;**  
*membru in echipa de cercetare*

10 noiembrie, 2007

C. M. Raduta