

PERSONAL INFORMATION

Cristina Cirtoaje

-  University Politehnica of Bucharest
-  Replace with telephone number  0728193185
-  cristina.cirtoaje@upb.ro , cristina_cirtoaje@yahoo.com
-  State personal website(s)
-  Yahoo Messenger cristina_cirtoaje@yahoo.com

Sex Female | Date of birth 29/07/1977 | Nationality Romanian

POSITION WITHIN THE GRANT/PROJECT

Researcher

WORK EXPERIENCE

2022 - present

Head of the Physics Department, Applied Science Faculty, National University for Science and Technology Politehnica Bucuresti

Splaiul Independentei 313, Bucharest, 060042, ROMANIA Tel: +402140291 00 ; +402131810 22 / 23 / 24 / 25, www.pub.ro

Activities:

- Responsible with Educational Activity of the Faculty, Research development and reports,
- Promoting the faculty
- Supervising the on-line educational platform

[Business or sector](#) Academic. Education and research.

2019 -present

Associate Professor

2012- 2019,

Lecturer

2006-2012,

Assistant Lecturer

2002-2006,

Graduate Teaching Assistant

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www.pub.ro

[Business or sector](#) Academic. Education and research.

Activities:

- Student training and scientific research in liquid crystals and nanoparticles

EDUCATION AND TRAINING

2002 - 2010

Phd

EQF level 8

University Politehnica of Bucharest

- Semiconductor Physics
- Liquid crystals Physics
- Nanoparticles physical characterization

2001 - 2002

Master's Degree

EQF level 7

University of Bucharest, Physics Faculty

- Metrology
- Quantum metrology
- Microcontroller systems
- Organic semiconductors

1996 - 2001

Bachelor's Degree

EQF level 6



University of Bucharest, Physics Faculty

- Mathematics
- Fundamental physics
- Metrology
- Non-destructive testing
- Nano-electronics.
- Organic semiconductors.
- Materials Science

1992 - 1996

Bacalaureat

EQF level 3

“Alexandru Ioan Cuza” High School

- Basic education

PERSONAL SKILLS

Mother tongue(s) Replace with mother tongue(s)

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
Russian	A1	A1	A1	A1	A1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills

- good communication skills gained through my teaching experience

Organisational / managerial skills

- organizational skills gained from students organizing and tutoring during classes or laboratory research
- leading skills gained from research team and master's degree theses

Job-related skills

- training skills from working with undergraduate or graduate students

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Independent user	Independent user	Independent user

Levels: Basic user - Independent user - Proficient user
[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificate(s)

- good command of office suite (word processor, spread sheet, presentation software)
- good command of photo editing software gained as an amateur photographer



ADDITIONAL INFORMATION

Publications

- E. Petrescu, C. Cirtoaje*, C. Stan Dynamic behavior of a nematic liquid crystal mixed with CoFe₂O₄ ferromagnetic nanoparticles in a magnetic field Beilstein J. Nanotechnol. 2017, 8, 2467–2473. doi:10.3762/bjnano.8.246.
- Emil Petrescu and Cristina Cirtoaje*, Dynamic behavior of a nematic liquid crystal with added carbon nanotubes in an electric field, Beilstein J. Nanotechnol. 2018, 9, 233–241. doi:10.3762/bjnano.9.25
- **Cristina Cirtoaje**, Emil Petrescu *Measurement of magnetic anisotropy of multiwalled carbon nanotubes in nematic host* Physica E 84(2016)244–248
- **Cristina Cirtoaje**, Emil Petrescu, Cristina Stan, Dorina Creangă *Ferromagnetic nanoparticles suspensions in twisted nematic*, Physica E, 79, pag 38-43, (2016)
- WOS:000370089900006 DOI: 10.1016/j.physe.2015.12.006
- **Cristina Cirtoaje**, Emil Petrescu, Comelia Moțoc, *Electric field effects in nematic liquid crystals doped with carbon nanotubes* Physica E, Volume: 54, Pages: 242-246, (2013) WOS:000325385100043 DOI: 10.1016/j.physe.2013.07.005
- **Cristina Cirtoaje**, Victor Stoian, Emil Petrescu, Comelia Moțoc, *Relaxation phenomena in nematic liquid crystals with multiwall carbon nanotubes adding*, Proc. of SPIE Microtechnologies, Vol. 9517, 95171G-10 2015
- WOS:000357978500043 DOI: 10.1117/12.2178333

Proiects (as team leader)

- Graphene nanoparticles dispersions in soft crystalline environment Research project 9/ 02-1-1107-2011-2019 Cooperation program between JINR and the institutions in Romania based on JINR Order No 397/27.05.2019
- The study of carbon nanotubes selfassembling in nematic host Research project 8/ 02-1-1107-2011-2019 Cooperation program between JINR and the institutions in Romania based on JINR Order No 397/27.05.2019
- The study of carbon nanotubes alignment in thermotropic nematic liquid crystals Research project 13/ 02-1-1107-2011-2019 Cooperation program between JINR and the institutions in Romania based on JINR Order No 322/21.05.2018
- Research project 64/tema 04-4-1121-2015/2017 *The physical properties study of micro-particles organized with nematic liquid crystals* between JINR and the institutions in Romania based on JINR Order No 96/15.02.2016
- Research project 61/tema 04-4-1069-2009/2014 *Investigation of DESO/LIPID membranes interaction by X-ray scattering* between JINR and the institutions in Romania based on JINR Order No 96/17.02.2014
- Research project 61/tema 04-4-1069-2009/2014 *Investigation of DESO/LIPID membranes interaction by X-ray scattering* between JINR and the institutions in Romania based on JINR Order No 82/18.02.2013
- Excellence Research Grants' Program, UPB–GEX. Identifier: UPB–EXCELENT_A~ – 2016 Phase modulation in nematic liquid crystals subjected to magnetic field. Contract number 139 24/26.09.2016.

Courses

- E. Petrescu, C. Cîrtoaje, Elemente de termodinamica si fizica statistica, Editura Politehnica Press, 2016
- Emil Petrescu, **Cristina Cirtoaje** Radiatii ionizante si elemente de dozimetrie Editura Politehnica Press ISBN: 978-606-515-656-2, București, 2016
- Gabriela Iacobescu, **Cristina Cirtoaje**, Emil Petrescu, Introducere în biofizică, Editura Universitaria Craiova ISBN: 976-606-140-288-5, Craiova, 2011

ANNEXES

- publications
- research projects as team member.

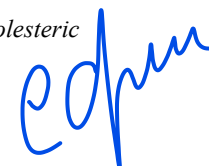


Publications

1. Asaftei, M; Lucidi, M; Cirtoaje C; Holban AM; Charitidis; CA, Yang F; Wu, AG; Stanciu, GA; Saglam, O; Lazar, V; Visca, P; Stanciu, SG, *Fighting bacterial pathogens with carbon nanotubes: focused review of recent progress* Jun 29 2023 | 13 (29) , pp.19682-19694
2. Petrescu, E and Cirtoaje, C., *Electric Properties of Multiwalled Carbon Nanotubes Dispersed in Liquid Crystals and Their Influence on Freedericksz Transitions*, Apr 2022 | NANOMATERIALS 12 (7)
3. Cirtoaje, Cristina, *Ferroelectric Particles in Nematic Liquid Crystals with Soft Anchoring* MOLECULES Volume: 26 Issue: 4 Article Number: 1166 Published: FEB 2021
4. Cirtoaje, Cristina; Iacobescu, Gabriela; Petrescu, Emil *Freedericksz Transitions in Twisted Ferronematics Subjected to Magnetic and Laser Field* CRYSTALS Volume: 10 Issue: 7 Article Number: 567 Published: JUL 2020
5. Cirtoaje, Cristina; Petrescu, Emil *The Influence of Single-Walled Carbon Nanotubes on the Dynamic Properties of Nematic Liquid Crystals in Magnetic Field* MATERIALS Volume: 12 Issue: 24 Article Number: 4031 Published: DEC 2 2019
6. Cirtoaje, Cristina; Petrescu, Emil; Stan, Cristina; Andrey Rogachev *Electric Freedericksz transition in nematic liquid crystals with graphene quantum dot mixture* Conference: 12th International Conference on Physics of Advanced Materials (ICPAM) Location: Heraklion, GREECE Date: SEP 22-28, 2018, APPLIED SURFACE SCIENCE Volume: 487 Pages: 1301-1306 Published: SEP 1 2019
7. Cirtoaje, Cristina *New method to detect low tritium concentration in metals* UPB Scientific Bulletin Series A, Applied Mathematics and Physics Volume: 81 Issue: 1 Pages: 229-240 WOS:000461794200023 2019 0.094 0.461
8. Emil Petrescu, Cristina Cirtoaje and Octavian Danila, *Dynamic behaviour of nematic liquid crystal mixtures with quantum dots in electric fields*, Beilstein J. Nanotechnol. Beilstein J. Nanotechnol. 2018, 9, 399–406, doi:10.3762/bjnano.9.39 , WOS:000424048500002 2018 0.745 2.968
9. Emil Petrescu, Cristina Cirtoaje, *Dynamic behaviour of a nematic liquid crystal with added carbon nanotubes in an electric field*, Beilstein J. Nanotechnol. 2018, 9, 233–241, doi:10.3762/bjnano.9.25, WOS:000423192400001 2018 0.745 2.968
10. Cirtoaje, Cristina; Petrescu, Emil *The influence of graphene nanoplatelets on the Freedericksz transition threshold in nematic liquid crystals* ADVANCED TOPICS IN OPTOELECTRONICS, MICROELECTRONICS, AND NANOTECHNOLOGIES IX Book Series: Proceedings of SPIE Volume: 10977 Article Number: UNSP 109770J , WOS:000458717900018 2018
11. E. Petrescu, C. Cirtoaje, C. Stan *Dynamic behavior of a nematic liquid crystal mixed with CoFe₂O₄ ferromagnetic nanoparticles in a magnetic field* Beilstein J. Nanotechnol. 2017, 8, 2467–2473. doi:10.3762/bjnano.8.246
12. E. C. Niculescu, C. Stan, D. Bejan, and C. Cirtoaje *Impurity and eccentricity effects on the nonlinear optical rectification in a quantum ring under lateral electric fields* JOURNAL OF APPLIED PHYSICS 122, 144301 (2017)
13. D.Mănăilă-Maximean, C.Cirtoaje, O.Dănilă, D.Donescu *Novel colloidal system: Magnetite-polymer particles/lyotropic liquid crystal under magnetic field* Journal of Magnetism and Magnetic Materials 336 (2017) 44–48
14. **Cristina Cirtoaje**, Emil Petrescu *Measurement of magnetic anisotropy of multiwalled carbon nanotubes in nematic host* Physica E 84(2016)244–248
15. **Cristina Cirtoaje**, Emil Petrescu , Cristina Stan, Dorina Creangă *Ferromagnetic nanoparticles suspensions in twisted nematic*, Physica E, 79, pag 38-43, (2016) WOS:000370089900006 DOI: 10.1016/j.physe.2015.12.006
16. Emil Petrescu, Mihaela Antonina Călin, Bogdan Marinescu, **Cristina Cirtoaje**, *In vivo study of mal-pdt using fluorescence Spectra*, U.P.B. Sci. Bull., Series A, Vol. 77, Iss. 2, 269-274, 2015 WOS:000355574100026
17. Victor Stoian, **Cristina Cirtoaje**, Emil Petrescu, Cornelia Moțoc, *Optical nonlinearities induced by electric fields in nematic liquid Crystals*, Proc. of SPIE Optics+ Optoelectronics, 9503, 95030T-7 (2015) WOS:000356606800018 DOI: 10.1117/12.2178320
18. **Cristina Cirtoaje**, Victor Stoian, Emil Petrescu, Cornelia Moțoc, *Relaxation phenomena in nematic*



- liquid crystals with multiwall carbon nanotubes adding*, Proc. of SPIE Microtechnologies, Vol. 9517, 95171G-10 2015
WOS:000357978500043 DOI: 10.1117/12.2178333
19. **Cristina Cîrtoaje**, Emil Petrescu, Victor Stoian, *Electrical Fredericksz transitions in nematic liquid crystals containing ferroelectric nanoparticles*, Physica E: Low-dimensional Systems and Nanostructures, Volume 67, Pages 23-27 (March 2015)
WOS:000348266500005 DOI: 10.1016/j.physe.2014.11.004
 20. **Cristina Cîrtoaje**, Ferrocholesteric - ferronematic transition in magnetic and laser field, University Politehnica of Bucharest Scientific Bulletin- Series A – Applied Mathematics and Physics, vol. 76, issue 1, pages 187-196 (2014) ISSN 1223-7027 FI: 0.300/2014
 21. **Cristina Cîrtoaje**, Emil Petrescu, Mihaela Antonina Călin, Gina Izvoranu, *Spectral analysis of methyl-aminolevulinic acid based photodynamic therapy using fractionated light*, U.P.B. Sci. Bull., Series A, Vol. 76, Iss. 4, 2014
WOS:000346133600019
 22. Moțoc Cornelia, Cristina Cîrtoaje, Adriana Stoica, Stoian Victor, *Relaxation phenomena in nematic – polymer mixtures*, University Politehnica of Bucharest Scientific Bulletin- Series A – Applied Mathematics and Physics, vol. 75, issue 3, pages 181-186 (2013)
 23. **Cristina Cîrtoaje**, Emil Petrescu, Cornelia Moțoc, *Electric field effects in nematic liquid crystals doped with carbon nanotubes* Physica E, Volume: 54, Pages: 242-246, (2013) WOS:000325385100043
DOI: 10.1016/j.physe.2013.07.005
 24. Stoian Victor, **Cîrtoaje Cristina**, Emil Petrescu, Cornelia Moțoc, *Nonlinearities induced by magnetic fields in nematic liquid crystals*, Optics Communications, Volumes: 309, Pages: 286-290 (2013) ISSN 0030-4018 WOS:000328527800049 DOI: 10.1016/j.optcom.2013.07.070
 25. Emil Petrescu, Bena Rodica, **Cîrtoaje Cristina**, *Polarisation gratings using ferronematics-an elastic continuum theory*, Journal of Magnetism and Magnetic Materials, vol. 336, pages 44-48 (2013) ISSN 0304-8853
WOS:000316732400008 DOI: 10.1016/j.jmmm.2013.02.018
 26. **Cristina Cîrtoaje**, Emil Petrescu, Cornelia Moțoc, *Self-focusing in nematic liquid crystals subjected to magnetic fields*, Optoelectronics and Advanced Materials-Rapid Communications vol. 5, issue: 2, pages: 106-111 (2011) ISSN 1842-6573 WOS:000288625000023
 27. **Cristina Cîrtoaje**, Cornelia Moțoc, Emil Petrescu, *Transition induced by superposed electric and magnetic fields in cholesteric and ferrocholesteric liquid crystals*, University Politehnica of Bucharest Scientific Bulletin- Series A – Applied Mathematics and Physics, vol. 73, issue 3, pages 125-132 (2011) ISSN 1223-7027, WOS:000294238100011
 28. **Cristina Cîrtoaje**, Cornelia Moțoc, Emil Petrescu, *New magnetic methods for determining of elastic constants and rotational viscosity coefficient in nematic liquid crystals*, University Politehnica of Bucharest Scientific Bulletin- Series A – Applied Mathematics and Physics, vol. 72, issue 4, pages 233-246 (2010) ISSN 1223-7027 WOS:000286087500022
 29. Eleonora Rodica Bena, **Cristina Cîrtoaje** *Surface Influence On The Optical Fredericksz Transition In Nematic Liquid Crystals Cells* University Politehnica of Bucharest Scientific Bulletin- Series A – Applied Mathematics and Physics, vol.71 issue 2 pages 85-94, 2009, ISSN 1223-7027
 30. Iacobescu Gabriela, Paun, Adrian Liviu **Cartoaje, Cristina** *Magnetically induced Fredericksz transition and relaxation phenomena in nematic liquid crystals doped with azo-dyes*, Journal of Magnetism and Magnetic Materials, Volume: 320 Issue: 17, 2008, Pages: 2180-2184 ISSN 0304-8853
WOS:000256378000009 DOI: 10.1016/j.jmmm.2008.03.050
 31. Roșu Constantin, **Cristina Cîrtoaje**, Adrian Liviu Păun, Al. *Magneto-Optical Effects In Nematic Liquid Crystal Doped With Prussian Blue* Optoelectronics And Advanced Materials-Rapid Communications Volume: 3 Issue: 2, Pages: 127-131, 2009
 32. Emil Petrescu, Eleonora Rodica Bena, **Cristina Cîrtoaje**, Adrian Liviu Păun, *Laser-field-induced ferronematic-ferrocholesteric transition in homeotropic cells*, University Politehnica Bucharest Scientific Bulletin- Series A- Applied Mathematics and Physics, Volume: 70, Issue: 1, Pages: 77–85, (2008), ISSN 1223-7027
 33. **Cristina Cîrtoaje**, Ileana-Hania Plonski, *Macroscopic Potential Energy Surfaces Of Heavy And Superheavy Nuclei* Romanian Reports in Physics, vol. 59, No. 2, pages: 387–396, 2007 ISSN: 1221-146X, WOS:000262922900007
 34. Petrescu, E. , Bena, E.R., Motoc, C., Cartoaje, *Magnetic - field - induced ferronematic-ferrocholesteric*



transition in homeotropic cells, University Politehnica Of Bucharest Scientific Bulletin-Series A-Applied Mathematics And Physics Volume: 69 Issue: 4 Pages: 89-97

Research grants as team member

1. Project CEEEX/ 6104/2.10.2005 NI 18.05.13, Ultra-sensitive AMS analysis for tritium and deuterium deep concentrations with important applications in environmental physics and nuclear fusion diagnosis; (2005-2008)
2. Project CEEEX/79/1.08.2006 NI 18.06.12 Fundamental approach of nuclear physics applications; (2006-2008)
3. Project CENVIT, (292/2006) CEEEX- RELANSIN Researches of structure-material properties relationship during the high-speed implementations of these technologies in industry and its effects in national economy competitiveness; (2006-2008)
4. Project CEEEX 283/13.09.2006 AMS – Nuclear monitoring method for environmental protection; (2006-2008)
5. Project PN II, 72185/01.10.2008 A study of tritium behaviour using AMS nanotechnology in material used in tritium remover from the water used in nuclear power stations in order to protect the environment and the personnel; **member** (2008-2011)
6. Project CEX-05-D10-74 / 14.10.2005 The dynamics of binary quantum systems; (2005-2008)
7. Project PN II, 62074/01.10.2008 The development of the SIFROC method in photodynamic therapy with MAL-PDT of pre-malign and non melanocytic malignant skin disease; (2008-2011)
8. Project PN II 126/14.09.2007 Advanced materials and technologies for optoelectronic applications; (2007-2009)
9. Project PN II 91038/14.09.2007 The development of the interdisciplinary academic research for the improvement of the international competitiveness of the Romanian universities; (2007-2010)
10. Project IDEI nr contract 677/2009 New nanocomposite systems with liquid crystals. Thermophysical properties and optical response in magnetic field (2009-2012)

