

## INFORMATII PERSONALE

## Chițanu Elena



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Sexul Feminin | Data nasterii 17/09/1978 | Nationalitatea Romana

## EXPERIENTA PROFESIONALA

## 2022-prezent Cercetator Stiintific gr. II

- Cercetari privind sinteza chimica de structuri hibride pe baza de nanoparticule feromagnetice grefate pe derivati magnetici;
- Cercetari in domeniul sintezei chimice pentru obtinerea:
  - structurilor hibride 3D grafena/ZnO cu utilizare in dispozitive fotovoltaice;
  - nanopulberi oxidice (ZnO) utilizabile pentru obtinerea tintelor presate mecanic si sinterizate in plasma;
  - nanocompozite magnetic moi  $\text{FeCo/Al}_2\text{O}_3$  cu utilizare in motoare electrice de turatie inalta;
  - nanostructuri 1D (nanofire ZnO) utilizabile in acoperiri antireflexive, acoperiri pentru protectie UV a membranelor polimerice electrofilate;
  - nanoparticule de  $\text{SiO}_2$  functionalizate cu utilizare in acoperiri hidrofobe multistrat.
- Cercetari in domeniul straturilor subtiri obtinute prin metode chimice si fizice;
- Cercetari in domeniul prepararii si caracterizarii fibrelor netesute (polimerice si cu material de umplutura) obtinute prin electrofilare.

Tipul sau sectorul de activitate Cercetare - Dezvoltare

2011 - 2022

## Cercetator Stiintific

INCDIE ICPE-CA Bucuresti, Splaiul Unirii, nr. 313, sector 3, Bucuresti, cod postal 030138

- Cercetari in domeniul sintezei chimice pentru obtinerea:
  - structurilor hibride 3D grafena/ZnO cu utilizare in dispozitive fotovoltaice;
  - nanopulberi oxidice (ZnO) utilizabile pentru obtinerea tintelor presate mecanic si sinterizate in plasma;
  - nanocompozite magnetic moi  $\text{FeCo/Al}_2\text{O}_3$  cu utilizare in motoare electrice de turatie inalta;
  - nanostructuri 1D (nanofire ZnO) utilizabile in acoperiri antireflexive, acoperiri pentru protectie UV a membranelor polimerice electrofilate;
  - Cercetari privind sinteza chimica de structuri hibride pe baza de nanoparticule feromagnetice grefate pe derivati grafenici;
  - nanosfere  $\text{SiO}_2$  cu utilizare in acoperiri hidrofobe multistrat.
- Cercetari in domeniul prepararii si caracterizarii fibrelor netesute (polimerice si cu material de umplutura) obtinute prin electrofilare

Tipul sau sectorul de activitate Cercetare - Dezvoltare

## 2007 - 2011 Asistent Cercetator Stiintific

SC ICPE-CA SA Bucuresti, Splaiul Unirii, nr. 313, sector 3, Bucuresti, cod postal 030138

- Cercetari in domeniul prepararii si caracterizarii materialelor oxidice (ZnO, CuO)
- Cercetari in domeniul prepararii si caracterizarii materialelor sub forma de straturi subtiri depuse prin metode fizice (pulverizare magnetron)
- Cercetari in domeniul materialelor oxidice transparente si conductoare pentru aplicatii fotovoltaice

Tipul sau sectorul de activitate Cercetare - Dezvoltare

## EDUCATIE SI FORMARE

- 2009 - 2012 **Doctor in Ingineria Materialelor** Nivelul 8 EQF  
 Universitatea „Valahia” Tirgoviste, Scoala Doctorala
- Studii postuniversitare in stiinte ingineresti - ingineria materialelor – titlul tezei “Straturi subtiri transparente conductoare de ZnO dopat cu aluminiu, utilizate in structuri fotovoltaice organice”
- 2001 - 2007 **Diploma de licenta inginer chimist** Nivelul 6 EQF  
 Universitatea „Politehnica” Bucuresti, Facultatea de Chimie Industriala
- Studii universitare - Petrochimie si carbochimie

## COMPETENTE PERSONALE

Limba(i) materna(e) Romana

### Alte limbi straine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversatie	Discurs oral	
Engleza	B2	B2	B2	B2	B2
Rusa	A1	A1	-	-	-

Niveluri: A1/A2: Utilizator elementar - B1/B2: Utilizator independent - C1/C2: Utilizator experimentat  
[Cadru european comun de referinta pentru limbi straine](#)

### Competente de comunicare

- abilitati bune de comunicare dobandite prin experienta mea de a comunica cu membrii echipei de cercetare in calitate de director sau responsabil de proiect;
- experienta de lucru in echipe multidisciplinare si multinationale.

### Competente organizationale /manageriale

- coordonarea si managementul in cadrul proiectelor nationale (program Nucleu);
- coordonarea si managementul proiectelor de cooperare internationala (program bilateral Romania – IUCN Dubna);
- experienta in organizarea de evenimente stiintifice (workshop-uri si conferinte).

### Competente dobandite la locul de munca

- abilitati in utilizarea tehnicilor de caracterizare: spectrofotometrie UV VIZ, profilometrie, efect Hall;
- operarea echipamentelor de procesare: echipament de depuneri straturi subtiri in vid, echipament de electrofilare nanofibre polimerice.

### Competenta digitala

AUTOEVALUARE

Procesarea informației	Comunicare	Creare de conținut	Securitate	Rezolvarea de probleme
Utilizator independent	Utilizator independent	Utilizator independent	Utilizator elementar	Utilizator elementar

Niveluri: Utilizator elementar - Utilizator independent - Utilizator experimentat  
[Competențele digitale - Grila de auto-evaluare](#)

- o bună stăpânire a instrumentelor Microsoft Office (Word, Excel, PowerPoint);
- cunoștințe elementare ale aplicației Origin.

## INFORMAȚII SUPLIMENTARE

**Publicatii  
(selectie)**

- I.Iordache, A.Sobetkii, C. Vitelaru, **E.Chitanu**,C.A.Banciu, G. Iosif, V.Marinescu, G.Sbarcea, L. Acnola, V.Capatina, "Influence of hydrogen annealing on the properties of AZO thin films", Journal of Optoelectronics and Advanced Materials (JOAM), Vol. 24, No. 5-6, May – June 2022, p. 256 - 262.
- T.Malaeru, M.M.Codescu, **E. Chitanu**, G.Georgescu, C.A. Banciu, R.C.Dascalu, D. Patroi, V.Marinescu, I. Borbath, "Synthesis and characterization of silica nanoparticles with modified surface for hydrophobic coatings" Journal of Optoelectronics and Advanced Materials (JOAM), Vol. 24, No. 1-2, January – February 2022, p. 74-81
- **E. Chitanu**, "The influence of deposition parameters on structural, optical and electrical properties of AZO thin film", Journal of Optoelectronics and Advanced Materials (JOAM), 2021, Vol. 23, No. 5-6, May – June 2021, p. 270 - 274
- I. Craciunescu, **E. Chitanu**, M. M. Codescu, N. Iacob, A. Kuncser, V. Kuncser, V. Socoliuc, D. Susan-Resiga, F. Balanean, G. Ispas, T. Borbáth, I. Borbáth, R. Turcu, L. Vékás, High performance magnetorheological fluids: very high magnetization FeCo-Fe<sub>3</sub>O<sub>4</sub> nanoclusters in ferrofluid carrier, Soft Matter, (2021) <https://doi.org/10.1039/D1SM01468D>
- **E. Chitanu**, T. Malaeru, M. M. Codescu, V. Marinescu, C. Banciu, G. Georgescu, I. Borbath, "Hydrophobic protective coatings based on functionalized SiO<sub>2</sub> for wind devices applications" The 12<sup>th</sup> International Symposium On Advanced Topics In Electrical Engineering March 25-27, 2021, Bucharest, Romania.
- M.M. Codescu, **E. Chitanu**, W. Kappel, D. Patroi, E. Manta, J. Pinteá "Co-based magnetic nanostructured material for high frequency applications Co-based magnetic nanostructured material for high frequency applications" IOP Conference Series Materials Science and Engineering 572, 2019, DOI:[10.1088/1757-899X/572/1/012068](https://doi.org/10.1088/1757-899X/572/1/012068),
- M.M. Codescu, **E. Chitanu**, W. Kappel, D. Patroi, E. Manta, J. Pinteá, "FeCo soft magnetic, electrically insulated nanopowders" Journal of Magnetism and Magnetic Materials, pp. 264-268, 2019, doi: <https://doi.org/10.1016/j.jmmm.2019.01.020>, Factor de Impact 3.406
- **E.Chitanu**, C. Banciu\*, G Sbarcea, V Marinescu, A Bara, P Barbu (Prioteasa), "Hydrothermal Synthesis and Characterization of Hybrid ZnO/3D Graphene Structures" Revista de Chimie ISSN 0034-7752, Vol. 69, nr. 12, pp. 3376, 2018, doi: <https://doi.org/10.37358/RC.18.12.6753>, Factor de Impact 1.605
- **E.Chitanu**, A. Bara, C. Banciu\*, M.Lungulescu, V. Marinescu, "Study of electrospun cellulose acetate fibers", Industria textila ISSN 1222-5347 Vol. 69, nr. 5 pp. 363-368, 2018, doi:[10.35530/IT.069.05.1511](https://doi.org/10.35530/IT.069.05.1511), Factor de Impact 0.504
- C.Banciu, A.Bara, **E. Chitanu**, V.Marinescu, G.Sbarcea, I.Ion, "The effect of process parameters on the electrospun polystyrene fibers" Industria textila ISSN 1222-5347 Vol. 69, nr. 4 pp. 263-269, 2018 doi: [10.35530/IT.069.04.1481](https://doi.org/10.35530/IT.069.04.1481), Factor de Impact 0.504
- V.D. Zhaketov, **E. Chitanu**, Yu.V. Nikitenko, " Neutron Reflectometry Studies of ZnO Films" Journal of Surface Investigation: X-ray, Synchrotron and Neutron Techniques Vol. 12, No. 4 pp. 658–664, 2018 doi: [10.1134/S1027451018040195](https://doi.org/10.1134/S1027451018040195), Factor de Impact 0.250
- A.Bara, C.Banciu, **E. Chitanu**, V.Marinescu, M.V. Lungu, A. Dorogan, E. Carpus, C. Ghituleasa, Aspects regarding accomplishing multilayered filtration media, using electrospun webs, Proceedings of the 7th International Conference on Advanced Materials and Systems pp. 295-300 2018 DOI: 10.24264/icams-2018.VI.2
- L. Pislaru-Danescu, **E. Chitanu**, L.A. El-Leathey, V. Marinescu, D. Marin, B.G. Sbarcea, " Synthesis and Characterization of Antireflective ZnO Nanoparticles Coatings Used for Energy Improving Efficiency of Silicone Solar Cells" Electronic Materials Letters Vol.14 (3), nr. 3 pp. 76–386, 2018 doi:[10.1007/s13391-018-0028-z](https://doi.org/10.1007/s13391-018-0028-z), Factor de Impact 1.77
- V.Ionita, M.M.Codescu, **E.Chitanu**, L.Petrescu, E.Cazacu, "Hysteresis modeling accuracy for soft magnetic nanopowders" Revue Roumaine des Sciences Techniques – Série Électrotechnique et Énergétique Vol. 63, nr. 1 pp.11–14, 2018, Factor de Impact 1.114
- Banciu, A. Bara, **E. Chitanu**, M. Lungulescu, I. Ion, L. Leonat, "Filtering membranes based on electrospun expanded polystyrene/β-cyclodextrin fibers" IEEE, 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE) pp. 223-226, 2017, DOI: [10.1109/ATEE.2017.7905084](https://doi.org/10.1109/ATEE.2017.7905084),
- **E.Chitanu**, A.Bara, D.Patroi, V.Marinescu, M.M.Codescu, C.Banciu, "PAN/ZnO composite electrospun fibers for UV shielding applications" IEEE, 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE), pp. 227-230, 2017, DOI: [10.1109/ATEE.2017.7905098](https://doi.org/10.1109/ATEE.2017.7905098),
- **E.Chitanu**, L.Danescu-Pislaru, A.L. El-Leathey, R. Chihaiá, C.Babutanu, V.Marinescu, G. B. Sbarcea, " Improvement of Polycrystalline Solar Cells Operation under Low Solar Radiation Conditions by Using ZnO Nanostructured Materials" IEEE, 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE), pp. 768 – 773, 2017, DOI: [10.1109/ATEE.2017.7905074](https://doi.org/10.1109/ATEE.2017.7905074)

## Conferinte

- C. Banciu, A. Bara, **E. Chitanu**, M. Lungulescu, V. Marinescu, D. Patroi, G. Sbarcea, I. Ion, "3D graphene/zinc oxide composite network for electrode applications", 18th International Balkan Workshop on Applied Physics and Materials Science, 10-13 July 2018, Constanta, Romania
- **E. Chitanu**, V. Marinescu, A. Bara, C. Banciu, "Polymeric non-woven for UV protection", 18th International Balkan Workshop on Applied Physics and Materials Science, 10-13 July 2018, Constanta, Romania
- C. Banciu, A. Bara, **E. Chitanu**, V. Marinescu, G. Sbarcea, I. Ion, „The effect of process parameters on the electrospun polystyrene fiber“, "8th Texteh International Conference", 19-20 Octombrie 2017, Bucuresti, Romania
- **E. Chitanu**, A. Bara, C. Banciu, M. Lungulescu, V. Marinescu, „Study of electrospun cellulose acetate fibers“, "8th Texteh International Conference", 19-20 Octombrie 2017, Bucuresti, Romania
- C.Banciu, A.Bara, M.Lungulescu, V.Marinescu, **E. Chitanu**, G.Sbarcea, „Three-Dimensional Graphene Structures Preparation and Characterization“, 5th International Conference On Powder Metallurgy And Advanced Materials RoPM-AM2017, 16-21 Septembrie 2017, Cluj-Napoca, Romania
- **E. Chitanu**, C. Banciu, G. Sbarcea, V. Marinescu, A. Bara, "Hydrothermal Synthesis and Characterization of Hybrid ZnO/3D Graphene Structures", "The Conference 20th Romanian International Conference on Chemistry and Chemical Engineering (RICCCE)", 6-9 Septembrie 2017, Poiana Brasov, Romania
- C. Banciu, A. Bara, **E. Chitanu**, M. Lungulescu, I. Ion, L. Leonat, „Filtering membranes based on electrospun expanded polystyrene/ $\beta$ -cyclodextrin fibers“, The 10th International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING, 23-25 Martie 2017, Bucuresti, Romania
- **E. Chitanu**, A. Bara, D. Patroi, V. Marinescu, M. M. Codescu, C. Banciu, "PAN/ZnO composite electrospun fibers for UV shielding applications", The 10th International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING, 23-25 Martie 2017, Bucuresti, Romania
- **E.Chitanu**, L.Danescu-Pislaru, A.L. El-Leathey, R. Chihaia, C.Babutanu, V.Marinescu, G. B. Sbarcea, " Improvement of Polycrystalline Solar Cells Operation under Low Solar Radiation Conditions by Using ZnO Nanostructured Materials" IEEE, 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE), pp. 768 – 773, 2017, DOI: [10.1109/ATEE.2017.7905074](https://doi.org/10.1109/ATEE.2017.7905074)
- M.M. Codescu, W. Kappel, **E.Chitanu**, E.Manta, " Exchange hardened ferrimagnetic nanocomposites" IEEE, 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE), 2017 10th International Symposium on Advanced Topics in Electrical Engineering, ATEE 2017, pp. 444 – 447, 2017, DOI: 10.1109/ATEE.2017.7905091
- C. Vasilescu, I. Craciunescu, D. Susan-Resiga, O. Marinica, T. Boros, T. Borbáth, **E. Chitanu**, M. Codescu, V. Socoliuc, I. Borbáth, R. Turcu, L. Vékás, "High magnetic moment superparamagnetic microspheres in water suspension: structure, magnetic and magnetorheological properties", 7th Szeged International Workshop on Advances in Nanoscience, October 12-15, 2016/Szeged, Hungary
- L.Pislaru-Danescu, **E.Chitanu**, R.A.Chihaia, D.Marin, L.A. El-Leathey, V.Marinescu, B.G.Sbarcea, C.A.Babutanu, "New harvesting system based on photovoltaic cells with antireflexive ZnO nanoparticles coatings and DC/DC isolation conversion", 4th International Symposium on Environmental Friendly Energies and Applications 14-16 September, 2016, Belgrade, Serbia
- A. Bara, **E. Chitanu**, C. Banciu, V. Marinescu, V. Tsakiris, "Polyacrylonitrile-based Electrospun Fibers", The 9th International Symposium on ADVANCED TOPICS IN ELECTRICAL ENGINEERING, 7-9 Mai 2015, Bucuresti, Romania

## Proiecte

- Proiect experimental demonstrativ PED "Structuri hibride pe baza de nanoparticule feromagnetice grefate pe derivati grafenici pentru absorbtia de microunde" 2020-2022
- Program ATTRACT, H2020 - third-party project – „Carbon quantum dots/graphene hybrids with broad photoresponsivity” (2019-2020) – Membru echipa de cercetare
- Proiect experimental demonstrativ - "Celule solare de tip Grätzel cu structuri integrate de grafene 3D" (2017-2018) – Membru echipa de cercetare
- Program Nucleu – “Filtre pe baza de micro/nanofibre polimerice obtinute prin electrofilare” (2016-2017) – Membru echipa de cercetare
- Program for Research-Development-Innovation for Space Technology and Advanced Research – STAR – “Advanced composite structures for space applications” (2012-2015) - Membru echipa de cercetare
- PNCDI II – „Advanced composite structures for aerospace and transport industry – SUPERSOLID” (2007-2010) - Membru echipa de cercetare
- MNT ERA NET Project - “Mini-supercapacitors technology, based on hybrid CNT/CNF - electroactive polymer networks” (2012-2014) – Membru echipa de cercetare
- Program NUCLEU 0935-0103/2009 2014 Materiale compozite cu proprietati mecanice performante - Nanostructuri fibroase pentru filtrarea fluidelor obtinute prin electrofilare-responsabil subtema
- Cooperare bilaterala Romania – IUCN Dubna -"ZnO complex multilayer system - deposition and investigation", Tema nr. 04-4-1121-2015/2017 (2015-2017), director proiect
- Cooperare bilaterala Romania – IUCN Dubna "Study of transparent conductive films of zinc oxide doped with aluminum", Tema nr. 04-4-1069-2009/2014 (2013-2014), director proiect
- Cooperare bilaterala Romania – IUCN Dubna – „Obtaining and characterization of 3D graphene networks”, Tema nr. 04-4-1121-2015/2017 (2016-2017) - Membru echipa de cercetare
- Cooperare bilaterala Romania – IUCN Dubna - „Electrospun polymeric nanocomposite fibers with different functionalities”, Tema nr. 04-4-1121-2015/2017 (2015-2016) - Membru echipa de cercetare
- Cooperare bilaterala Romania – IUCN Dubna – „Preparation and characterization of CNT/polymer composites and micro(nano) composite fibers for sensing applications”, Tema nr. 04-4-1069-2009/2014 (2014-2015) - Membru echipa de cercetare

## Premii

- Diploma de Argint la EUROINVENT 2021 pentru brevetul "Zinc oxide-tree-dimensional graphene network hybrid composite material and process for obtaining the same", autori Banciu Cristina Antoanela, Bara Adela, **Chitanu Elena**, Ion Ioana, Teisanu Aristofan, Marinescu Virgil
- Diploma de excelență și medalie de aur la PRO INVENT 2019 Cluj Napoca pentru brevetul "FeCo Electrically Insulated Nanopowders", autori Codescu Maria Mirela, **Chitanu Elena**, Kappel Wilhelm, Manta Eugen, Patroi Delia, Pinteana Jana, Patroi Eros Alexandru, Morari Cristian
- Medalia de aur la PRO INVENT 2019 Cluj Napoca oferita de Universitatea Tehnica a Moldovei, Chisinau, Republica Moldova, pentru brevetul "FeCo Electrically Insulated Nanopowders", autori Codescu Maria Mirela, **Chitanu Elena**, Kappel Wilhelm, Manta Eugen, Patroi Delia, Pinteana Jana, Patroi Eros Alexandru, Morari Cristian
- Diploma de Excelență la EUROINVENT 2019 pentru brevetul "Membrana electrofilata din polistiren expandat aditivat cu ciclodextrina și procedeu de obtinere a acesteia", autori Banciu Cristina Antonela, Bara Adela, **Chitanu Elena**, Lungulescu Eduard-Marius, Ion Ioana
- Diploma de Excelență la EUROINVENT 2019 oferita de INMA Bucuresti pentru brevetul "Membrana electrofilata multistrat și procedeu de obtinere a acesteia", autori Banciu Cristina Antonela, Bara Adela, **Chitanu Elena**, Marinescu Virgil Emanuel
- Medalia de aur la EUROINVENT 2019 oferita de INMA Bucuresti pentru brevetul "Membrana electrofilata multistrat și procedeu de obtinere a acesteia", autori Banciu Cristina Antonela, Bara Adela, **Chitanu Elena**, Marinescu Virgil Emanuel
- Medalia de aur la EUROINVENT 2018 Iasi pentru brevetul "FeCo Electrically Insulated Nanopowders", autori Codescu Maria Mirela, **Chitanu Elena**, Kappel Wilhelm, Manta Eugen, Patroi Delia, Pinteana Jana, Patroi Eros Alexandru, Morari Cristian

**Membru al  
asociațiilor  
profesionale**

- Societatea Romana de Materiale Magnetice

**Brevete**

- M. M. Codescu, **E. Chitanu**, W. Kappel, E. Manta, D. Patroi, J. Pinte, E. Patroi, C. Morari, Procedeu de obtinere a unor nanopulberi compozite tip FeCo/Al<sub>2</sub>O<sub>3</sub>, nr. 132096/29.10.2021
- A. Teisanu, **E. Chitanu**, R. Mirea, E. Macamete, D. Rosu "Material electroconducitiv pe baza de rasini epoxidice" Brevet OSIM nr 125882/29.11.2012

**Cereri  
brevete**

- Cerere de Brevet A/00122 / 26.02.2019 "Material compozit hibrid oxid de zinc - retea de grafene tridimensionala si procedeu de obtinere a acestuia", C.Banciu, A.Bara, **E.Chitanu**, I.Ion, A.Teisanu, V.Marinescu
- Cerere de Brevet A/00868 / 25.10.2017 "Membrana electrofilata din polistiren expandat aditivat cu ciclodextrina si procedeu de obtinere a acesteia", C. Banciu, A. Bara, **E.Chitanu**, M.Lungulescu, I. Ioana
- Cerere de Brevet A/00905 / 07.11.2017 "Membrana electrofilata multistrat si procedeu de obtinere a acesteia", C. A. Banciu, A. Bara, **E. Chitanu**, V. Marinescu
- Cerere de Brevet A00297/17.05.2017 "Sistem de generare a energiei electrice prin conversie fotovoltaica, cu acoperire antireflexiva", L.Pislaru Danescu, **E.Chitanu**, A.El-Leathey, C.Babutanu, D.Marin, A.Morega, M.Morega, N.Popa.

29.09.2022

Dr. Ing. Elena Chitanu

