

PERSONAL INFORMATION

Chitanu Elena



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Sex F | Date of birth 17.09.1978 | Nationality romanian

WORK EXPERIENCE

February 2022- present

Senior Researcher II

National Institute for R&D in Electrical Engineering ICPE-CA
 Splaiul Unirii Street, no. 313, Sector 3, Bucharest- 030138, Romania

- Chemical synthesis of hybrid structures based on ferromagnetic nanoparticles grafted on graphene derivatives for microwave absorption;
- Chemical synthesis of soft magnetic FeCo/Al₂O₃ nanocomposites for in high-speed electric motors;
- Synthesis and functionalisation of SiO₂ nanoparticles for multilayer hydrophobic coatings;
- Transparent conducting oxide thin films - deposition and characterisation;
- ZnO thin film prepared by chemical process (spray pyrolysis, spin coating and thermal treatment) - deposition and characterisation;
- Research on ZnO nanostructured antireflective coatings for solar cells application;
- Hydrothermal synthesis and characterization of hybrid ZnO/3D graphene structures for solar cells applications;
- Polymeric electrospun nonwoven.

Business or sector Research

November 2010 - February 2022

Researcher

National Institute for R&D in Electrical Engineering ICPE-CA
 Splaiul Unirii Street, no. 313, Sector 3, Bucharest- 030138, Romania

- Experimental research on deposition / characterisation of transparent conducting oxide films;
- Research on deposition and characterisation of ZnO thin film by chemical;
- Research on hydrothermal synthesis and characterization of hybrid ZnO/3D graphene structures for solar cells applications;
- Research on hydrothermal synthesis and characterization of ZnO nanostructures on polymeric electrospun nonwoven;
- Magnetic nanoparticles chemical synthesis.

Business or sector Research

September 2007 – November 2010

Junior Researcher

National Institute for R&D in Electrical Engineering ICPE-CA
 Splaiul Unirii Street, no. 313, Sector 3, Bucharest- 030138, Romania

- Research on deposition / characterisation of transparent conducting oxide films, deposited by PVD methods (magnetron sputtering, E-BEAM evaporation and thermal evaporation);
- Research on chemical wet etching of ZnO thin films (with acids, bases and salts);
- Research on preparation of thin film solar cells (CdS/CdTe).

Business or sector Research

EDUCATION AND TRAINING

- 2009 - 2012 **PhD in material science domain** EQF 7t
- Professional Discipline
- studies and research on transparent conductive oxides (TCO) thin films (ZnO, aluminium doped ZnO);
 - research on physical method for deposition thin films (magnetron sputtering);
 - thin films functionalization research (surface wet etching and ZnO nanostructures hydrothermal preparation);
 - research on organic solar cell AZO/PEDOT PSS/P3HT/PCBM/Al.
- Thesis title: Transparent conductive thin film of aluminium doped ZnO used for organic photovoltaics devices
- University VALAHIA Targoviste*
- Doctoral training 1 November 2010 - 30 June 2011:** Transparent conducting oxide thin films - study and research :
- deposition aluminium doped zinc oxide thin films by physical method (magnetron sputtering);
 - thin films characterization (structural, morphological, electrical and optical);
 - AZO thin films functionalization by wet chemical etching with acids, bases and salts;
 - functionalization of AZO thin films by hydrothermal growth of ZnO nanostructures.
- Research Center of Materials (CENIMAT) / Nova University of Lisbon*
Campus da FCT, Quinta da Torre 2825 - 114 Caparica, Portugal
<https://www.cenimat.fct.unl.pt/pessoas/people/elena-chitanu>
- Doctoral training 1 -30 March 2012 :** Studies and research organic solar cells : AZO/PEDOT PSS/P3HT/PCBM/Al devices (Al:ZnO (AZO) prepared and characterised at CENIMAT, Costa de Caparica , Portugal).
- Institute for Organic Solar Cells (LIOS) / Johannes Kepler University Linz*
Altenbergerstraße 69, 4040 Linz, Austria
- 2001 - 2007 **Diplomat Engineer** EQF 7t
- Discipline:
- material science and chemical engineering
 - petrochemical (Petrochemical Technology)
- University Politehnica Bucharest*
Faculty of Applied Chemistry and Materials Science

PERSONAL SKILLS

Mother tongue(s) romanian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
english	C1	C1	B2	B2	B1
russian	-	B1	-	-	B1

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

Organisational / managerial skills ▪ team spirit and ability to adapt to multicultural environments, gained through experience working in multinational group

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

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

Good command of Microsoft Office™ tools (Word™, Excel™ and PowerPoint™ -(word processor, presentation software)); Origin.

Driving licence B category

ANNEXES

Papers (selection)

- I.Iordache, A.Sobetskii, C. Vițelaru, **E.Chitanu**, C.A.Banciu, G. Iosif, V.Marinescu, G.Sbârcea, L. Acmla, V.Căpățină, "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.Mălăeru, M.M.Codescu, **E. Chitanu**, G.Georgescu, C.A. Banciu, R.C.Dascălu, D. Pătroi, 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
- J. Crăciunescu, **E. Chitanu**, M. M. Codescu, N. Iacob, A. Kuncser, V. Kuncser, V. Socoliuc, D. Susan-Resiga, F. Bălănean, G. Ispas, T. Borbath, I. Borbath, R. Turcu, L. Vékás, High performance magnetorheological fluids: very high magnetization FeCo-Fe₃O₄ nanoclusters in ferrofluid carrier, Soft Matter, (2021) <https://doi.org/10.1039/D1SM01468D>
- M.M. Codescu, **E. Chitanu**, W. Kappel, D. Patroi, E. Manta, J. Pinteau, "FeCo soft magnetic, electrically insulated nanopowders" Journal of Magnetism and Magnetic Materials, pp. 264-268, 2019, ISSN 0304-8853 doi: <https://doi.org/10.1016/j.jmmm.2019.01.020>
- **E. Chitanu**, C. Banciu, G. Sbârcea, V. Marinescu, A. Băra, P. Barbu (Prioteasa), "Hydrothermal Synthesis and Characterization of Hybrid ZnO/3D Graphene Structures" Revista de Chimie ISSN 0034-7752, Vol. 69, nr. 12, pp. 3376-3381, 2018, ISSN: 2668-8212, doi: <https://doi.org/10.37358/RC.18.12.6753>
- **E.Chitanu**, A. Băra, C. Banciu, M.Lungulescu, V. Marinescu, "Study of electrospun cellulose acetate fibers", Industria textilă Vol. 69, nr. 5 pp. 363-368, 2018, ISSN 1222-5347, doi: 10.35530/IT.069.05.1511
- C.Banciu, A.Băra, **E.Chitanu**, V.Marinescu, G.Sbârcea, I.Ion, "The effect of process parameters on the electrospun polystyrene fibers" Industria textilă 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)
- 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 ISSN online 1819-7094 doi: 10.1134/S1027451018040195 (Factor de Impact 0.250).
- 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, ISSN 1738-8090, doi:10.1007/s13391-018-0028-z
- V. Ioniță, 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, ISSN 0035-4066, (Factor de Impact 0.763).
- Bara, V. Marinescu, **E. Chitanu**, C.Banciu, F. Clincischi, "Influence of process parameters on the morphology of polyacrylonitrile electrospun fibers" Industria textilă vol.66(4), pp 232-239, 2015, ISSN 1222-5347
- **E Chitanu**, R Barros, G Ioneta, R Martins, E Fortunato "RF Magnetron sputtering deposition of AZO thin films" Metalurgia International, vol 16, nr. 12 pp. 32 , 2011, ISSN: 15822214
- **E. Chitanu**, G. Sbarcea, Gh. Ionita, E. Stoian, "Obtaining ultra-thin layers CdTe with magnetron sputtering method", Metalurgia international, vol. 15, nr 10, 2010, pp. 30-33, ISSN: 15822214
- **E. Chitanu**, T. Malaeru, M. M. Codescu, V. Marinescu, C. Banciu, G. Georgescu, I. Borbath, "Hydrophobic protective coatings based on functionalized SiO₂ for wind devices applications" The 12th 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. Pinteau "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, ISSN 17578981, 1757899X, doi:10.1088/1757-899X/572/1/012068
- 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, ISSN: 2068 – 0783 doi: <https://doi.org/10.24264/icams-2018.VI.2>,
- 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, ISSN doi: 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,
- **E.Chitanu**, L.Danescu-Pislaru, A.L. El-Leathey, R. Chihaiia, 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
- 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

- L. Pislaru-Danescu, **E. Chitanu**, R.Chihaia, D. Marin, L.A. El-Leathay, V. Marinescu, B.G. Sbarcea "New harvesting system based on photovoltaic cells with antireflexive ZnO nanoparticles coatings and DC/DC isolation conversion", Conference: 2016 4th International Symposium on Environmental Friendly Energies and Applications (EFEA) 2016, doi: 10.1109/EFEA.2016.7748798
- Bara, **E. Chitanu**, C.Banciu, V. Marinescu, V.Tsakiris, "Polyacrylonitrile-based Electrospun Fibers" The 9th International Symposium On Advanced Topics In Electrical Engineering, 2015, doi: 10.1109/ATEE.2015.7133776
- E. Stoian, C. Rizescu, **E. Chitanu**, F. Anghelina, A. Poinescu "Electromagnetic pollution of environment" Conference: Proceedings of the 3rd WSEAS international conference on Engineering mechanics, structures, engineering geology, 2010, pp. 130-135, ISSN 1792-4294
- **E. Chitanu**, G. Ionita, "Obtaining thin layers of ZnO with magnetron sputtering method" International Journal Of Computers Issue 4, Volume 4, pp.243-250, 2010 , E-ISSN: 1998-4308, url: <https://www.naun.org/main/NAUN/computers/19-449.pdf>

Patents / Patents Applications

- Codescu M. M., **Chitanu E.**, Kappel W., Manta E., Patroi D., Pinteja J., Patroi E. A., Morari C., *Method for preparation of FeCo/Al₂O₃-type composite nanopowders*, No. 132096/29.10.2021
- Teisanu, **E. Chitanu**, R. Mirea, E. Macamete, D. Rosu "Material electroconductiv pe baza de rasini epoxidice" Brevet OSIM nr 125882/29.11.2012
- Banciu, A. Bara, **E.Chitanu**, M. Lungulescu, I. Ioana, "Membrana electrofilată din polistiren expandat aditivat cu ciclodextrină și procedeu de obținere a acesteia" Cerere de Brevet A/00868 / 25.10.2017
- Banciu, A. Băra, **E. Chitanu**, V. Marinescu, "Membrană electrofilată multistrat și procedeu de obținere a acesteia" Cerere de Brevet A/00905 / 07.11.2017
- L.Pislaru Danescu, **E.Chitanu**, A.El-Leathay, C.Babutanu, D.Marin, A.Morega, M.Morega, N.Popa, "Sistem de generare a energiei electrice prin conversie fotovoltaica, cu acoperire antireflexiva" Cerere de Brevet A00297/17.05.2017
- Banciu, A. Bara, **E. Chitanu**, I.Ion, A. Teisanu, V. Marinescu, "Material compozit hibrid oxid de zinc - retea de grafene tridimensionala si procedeu de obtinere a acestuia" Cerere de Brevet A/00122 / 26.02.2019

29.09.2022

Dr. eng. Elena CHITANU

