

## PERSONAL INFORMATION

## Mircea Nasui



+4074-0147106

✉ [Mircea.Nasui@chem.utcluj.ro](mailto:Mircea.Nasui@chem.utcluj.ro); [nasuimircea@yahoo.com](mailto:nasuimircea@yahoo.com)

🔗 [www.researcherid.com/rid/C-2594-2012](http://www.researcherid.com/rid/C-2594-2012)

💬 Replace with type of IM service Replace with messaging account(s)

Sex M | Date of birth 31/07/1984 | Nationality Romanian

## WORK EXPERIENCE

2011- present

**Research Assistant / Assistent Profesor**

Technical University of Cluj-Napoca, Center of Superconductivity, Spintronics and Surface Science (C4S) [www.c4s.utcluj.ro](http://www.c4s.utcluj.ro), Str. Memorandumului, no. 28, Cluj-Napoca, Romania.

*Research Interests*

- Experimental study and interpretation of the oxide films ( superconductors, conductors)
- Oxide precursor synthesis and characterization of the thin films
- Oxide nanopowders synthesis and characterization

Teaching activities: undergraduate degree level: Laboratory classes, General Chemistry, Ceramic and Vitreous Materials, Engineering of Non-metallic Materials, Advanced Ceramic Materials, Powders Synthesis, Chemical Methods for Thin Films Deposition

Business or sector University

2007-2008

**Research Assistant (engineer)**

Technical University of Cluj-Napoca, Str. Memorandumului, no. 28, Cluj-Napoca, Romania

- Precursor chemistry for the solution deposition of epitaxial thin films
- Oxide nanopowder synthesis

Business or sector University

2007-2008

**Research fellowships**

Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Spain, Marie-Curie research fellowships (2010) within the Nanoengineered superconductors for power applications -NESPA project funded under FP6-Mobility, Marie-Curie Research Training Networks

- Superconductors thin films obtained by chemical solution deposition

Business or sector University

## EDUCATION AND TRAINING

2014-2015

**Postdoctoral Research**

Replace with EQF  
(or other) level if  
relevant

Technical University of Cluj-Napoca, Str. Memorandumului, no. 28, Cluj-Napoca, Romania

- Title: Nanocomposite superconducting films obtain by chemical method using eco-friendly solution

April 2010-September 2010

**PhD Student, Research stage**

Replace with EQF (or other) level if relevant

Institute of Materials Science, ICMA B, Barcelona, Spain

Title: YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> thin films obtained by chemical solution deposition

2008-2011

**Ph.D. in Materials Science**

Replace with EQF (or other) level if relevant

Technical University of Cluj-Napoca, Str. Memorandumului, no. 28, Cluj-Napoca, Romania

Doctoral thesis title "Epitaxial Thin Films Obtained by Chemical Solution Deposition for YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> (YBCO) Superconducting Architecture

2003-2008

**Graduation diploma in Chemical Engineering**

Replace with EQF (or other) level if relevant

Faculty of Chemistry and Chemical Engineering, "Babeş-Bolyai" University, Cluj-Napoca, Romania

Diploma thesis "Epitaxial growth of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> thin films by chemical methods"

**PERSONAL SKILLS**

[Remove any headings left empty.]

Mother tongue(s)

Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
German	A1	A1	A1	A1	A1
Replace with name of language certificate. Enter level if known.					

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, dynamic, sociable, team spirit

Organisational / managerial skills

Ability to work collaboratively with commitment to achieve corporate goals (Eurotapes Project-consortium consists of 20 partners from 8 member states – 6 universities); Consultant for Graduation diploma in Materials Science (Title: Ceramic Catalysts for Air Depollution).

Job-related skills

- Research experience in the synthesis and characterization of nanomaterials;
- Chemical Solution Deposition methods;
- Crystal growth engineering;
- Computation modelling of the crystal structure;
- Evolved gas analysis techniques: thermogravimetry coupled to mass spectrometry (MS);
- Spectroscopy analysis: FTIR, UV-VIS;
- Structural characterization with X-Ray diffraction;
- Surface analysis: Auger spectroscopy

Digital competence

Microsoft Office™, Origin Pro, Corel DraW, Specialized Software: Spartan (Molecular Modeling), HYPERCHEM, CHEMWIN, GWYDDION, EVA.

Other skills

Research, Analysis, Strategy, Data Analysis, Hands-on skills with various tools, equipment and computer software;  
 Website design: Dreamweaver (webmaster – [www.c4s.utcluj.ro](http://www.c4s.utcluj.ro), [www.sdimm.utcluj.ro](http://www.sdimm.utcluj.ro)).

Driving licence B

---

 ADDITIONAL INFORMATION

Scientometric parameter 28 ISI papers, 200 ISI citation (excluded self citations) and h-index of 10 (Scopus)

## Publications

1. M. Nasui, R. B. Mos, M. S. Gabor, T. Petrisor, A. Tomolea, E. Ware, F. Goga, A. Mesaros, and L. Ciontea, "New versatile synthesis for low dimension superparamagnetic YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> nanoparticles," *Ceramics International* 43 (2017) 8845–8849 (FI=3.1)
2. M. Nasui, T. Petrisor Jr., R.B. Mos, M.S. Gabor, A. Mesaros, F. Goga, L. Ciontea, T. Petrisor, *Fluorine-free propionate route for the chemical solution deposition of YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> superconducting films*, *Ceramics International*, 41 (2015) 4416–4421. (FI=2.6)
3. M. Nasui, T. Petrisor Jr., R.B. Mos, A. Mesaros, R.A. Varg, B.S. Vasile, T. Ristoiu, L. Ciontea, T. Petrisor, *Synthesis, crystal structure and thermal decomposition kinetics of yttrium propionate*, *Journal of Analytical and Applied Pyrolysis* 106 (2014) 92–98. (FI=3.5)
4. M. Nasui, C. Bogatan (Pop), L. Ciontea, T. Petrisor, *Synthesis, crystal structure modeling and thermal decomposition of yttrium propionate [Y<sub>2</sub>(CH<sub>3</sub>CH<sub>2</sub>COO)<sub>6</sub>·H<sub>2</sub>O]·3.5H<sub>2</sub>O*, *Journal of Analytical and Applied Pyrolysis*, 97 (2012) 88-93. (FI=3.6)
5. M. Nasui, R.B. Mos, T. Petrisor Jr., M.S. Gabor, R. Varga, L. Ciontea, T. Petrisor, "Synthesis, crystal structure and thermal decomposition of a new copper propionate [Cu(CH<sub>3</sub>CH<sub>2</sub>COO)<sub>2</sub>] × 2H<sub>2</sub>O", *Journal of Analytical and Applied Pyrolysis*, 92 (2011) 439-444. (FI=3.6)
6. M. Nasui, T. Petrisor Jr., R.B. Mos, M.S. Gabor, T. Ristoiu, A. Rufoloni, L. Ciontea, T. Petrisor, *Precursor chemistry for the solution deposition of epitaxial La<sub>0.66</sub>Sr<sub>0.33</sub>MnO<sub>3</sub> (LSMO) thin films*, *Thin Solid Films*, 918 (2010) 4753-4756. (FI=1.6)
7. L. Piperno, A. A. Armenio, A. Vannozi, V. Galluzzi, V. Pinto, F. Rizzo, A. Augieri, A. Mancini, A. Rufoloni, G. Celentano, R. B. Mos, L. Ciontea, M. Nasui, M. Gabor, T. Petrisor, and G. Sotgiu, "Surface Decoration as a Prospective Artificial Pinning Strategy in Superconducting YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> Films," *IEEE Transactions on Applied Superconductivity* 28 Jun (2018).
8. M Belmeguenai, Y Roussigné, H Bouloussa, SM Chérif, A Stashkevich, M. Nasui, MS Gabor, A Mora-Hernández, B Nicholson, O-O Inyang, AT Hindmarch, L Bouchenoire, Thickness Dependence of the Dzyaloshinskii-Moriya Interaction in Co<sub>2</sub>FeAl Ultrathin Films: Effects of Annealing Temperature and Heavy-Metal Material *Physical Review Applied* 9 (4), 044044.
9. M. S. Gabor, T. Petrisor, R. B. Mos, M. Nasui, and C. Tiusan, "Interlayer exchange coupling in perpendicularly magnetized Pt/Co/Ir/Co/Pt structures," *Journal of Physics D-Applied Physics* 50 Nov (2017).
10. K. Torokhtii, N. Pompeo, A. Frolova, V. Pinto, A. A. Armenio, L. Piperno, G. Celentano, T. Petrisor, L. Ciontea, R. B. Mos, M. Nasui, G. Sotgiu, and E. Silva, "Microwave Measurements of Pinning Properties in Chemically Deposited YBCO/BZO Films," *IEEE Transactions on Applied Superconductivity* 27 (2017) (FI=1.09)
11. R. B. Mos, T. Petrisor, M. Nasui, A. Mesaros, M. S. Gabor, M. Senila, E. Ware, L. Ciontea, "Epitaxial La<sub>0.7</sub>Sr<sub>0.3</sub>MnO<sub>3</sub> nanostructures obtained by polymer-assisted surface decoration (PASD)," *Materials Letters*, vol. 171, pp. 281-284, May 2016. (FI=2.4)
12. M. S. Gabor, T. Petrisor Jr., R. B. Mos, A. Mesaros, M. Nasui, M. Belmeguenai, F. Zighem and C Tiusan, Spin-orbit torques and magnetization switching in W/Co<sub>2</sub>FeAl/MgO structures, *J. Phys. D: Appl. Phys.* 49 (2016) 365003 (7pp) (FI=2.7).
13. T. Dippong, E. A. Levei, C. Tanaselia, M. Gabor, M. Nasui, L. Barbu Tudoran, G. Borodi, "Magnetic properties evolution of the CoxFe<sub>3-x</sub>O<sub>4</sub>/SiO<sub>2</sub> system due to advanced thermal treatment at 700 °C and 1000 °C," *Journal of Magnetism and Magnetic Materials*, vol. 410, pp. 47-54, 2016.(FI=2.3)
14. R. A. Bortnic, F. Goga, A. Mesaros, M. Nasui, B. S. Vasile, D. Roxana, and A. Avram, "SYNTHESIS OF COBALT FERRITE NANOPARTICLES VIA A SOL-GEL COMBUSTION METHOD," *Studia Universitatis Babeş-Bolyai Chemia* 61 (2016) 213-222.
15. A. Mesaros, R. B. Mos, M. Nasui, T. Petrisor, D. Toloman, O. R. Vasile, F. Goga, L. Ciontea, "Insights into the europium-doped yttrium oxalate thermal decomposition mechanism," *Journal of Analytical and Applied Pyrolysis*, vol. 116, pp. 96-101, Nov 2015. (FI=3.5).
16. Adriana Balint, Tania Ristoiu, Amalia Mesaros, Mircea Nasui, Ramona Mos, Mihai Gabor, Vasile

- Bogdan, Traian Petrisor Jr, Lelia Ciontea, Ceria-carbonate solid electrolyte compozite for intermediate temperature fuel cells, **Studia Universitatis Babes-Bolyai, Ambientum**, 60 (2015).
17. R. B. Mos, M. Nasui, T. Petrisor, A. Mesaros, L. Ciontea, "The thermal decomposition of metal-organic precursors for epitaxial growth of SrZrO<sub>3</sub> thin films," **Journal of Analytical and Applied Pyrolysis**, vol. 115, pp. 255-261, Sep 2015. (FI=3.6)
18. A. Mesaros, D. Toloman, M. Nasui, R. B. Mos, T. Petrisor, B. S. Vasile, V. A. Surdu, I. Perhaita, A. Biris, O. Pana, "A valence states approach for luminescence enhancement by low dopant concentration in Eu-doped ZnO nanoparticles," **Journal of Materials Science**, 50 (2015) 6075-6086. (FI=2.4)
19. R. B. Mos, T. Petrisor, M. Nasui, A. Calleja, T. Puig, and L. Ciontea, *Enhanced structural and morphological properties of Gd-doped CeO<sub>2</sub> thin films obtained by polymer-assisted deposition*, **Materials Letters** 124 (2014) 306-309. (FI=2.4)
20. T. Petrisor Jr., R. B. Mos, M. Nasui, M. S. Gabor, A. Augieri, G. Celentano, D. De Felicis, E. Bemporad, L. Ciontea, T. Petrisor, "The Vortex Path Model Analysis of the Field Angle Dependence of the Critical Current Density in Nanocomposite YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub>-BaZrO<sub>3</sub> Films Obtained by Low Fluorine Chemical Solution Deposition", **J Supercond Nov Magn** (2014) 27:2493–2500.
21. M. M. Venter, V. N. Bercean, F. Goga, M. Nasui „Spectroscopic and thermal studies on the iron(III) mercapto-thiadiazol-thiosuccinate precursor for iron(III) oxides”., **Rev. Roum. Chim.** 59(11-12) (2014) 989-996.
22. R.B. Mos, M. Nasui, T. Petrisor Jr., M.S. Gabor, R. Varga, L. Ciontea, „Synthesis, crystal structure and thermal decomposition of Zr<sub>6</sub>O<sub>4</sub>(OH)<sub>4</sub>(CH<sub>3</sub>CH<sub>2</sub>COO)<sub>12</sub>” **Journal of Analytical and Applied Pyrolysis**, 97 (2012) 137-142.(FI=3.6)
23. C. Bogăţan, M. Năsui, T. Petrişor Jr, M. Gabor, T. Ristoiu, L. Ciontea, T. Petrişor, "On the way of growing YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-x</sub> superconducting thin films from a fluorin-free water based propionate precursor solution," **Studia Universitatis Babes-Bolyai Chemia**, pp. 13-22, 2012.
24. Amalia Mesaros, Mircea Nasui, Traian Petrisor Jr., Lelia Ciontea, Traian Petrisor, "Synthesis of YTaO<sub>4</sub>:Nb thin films by chemical solution deposition", **Journal of Alloys and Compounds**, 543 (2012) 221–226 (FI=3.04).
25. R.B. Mos, M. Nasui, T. Petrisor Jr., M.S. Gabor, R. Varga, L. Ciontea, T. Petrisor, „Synthesis, crystal structure and thermal decomposition study of a new barium acetato-propionate complex”, **Journal of Analytical and Applied Pyrolysis** 92 (2011) 445-449 . (FI=3.6)
26. L. Ciontea, T. Ristoiu, R.B. Mos, M. Nasui, T. Petrisor Jr., M.S. Gabor, A. Mancini, A. Rufoloni, G. Celentano, T. Petrisor, "Epitaxial growth of CeO<sub>2</sub> thin film on cube textured NiW substrate using a propionate-based metalorganic deposition (MOD) method" **Materials Chemistry and Physics**, 133 (2012) 772-778.
27. L. Ciontea, M. Nasui, T. Petrisor Jr., R.B. Mos, M.S. Gabor, R.A. Varga, T. Petrisor, "Synthesis, crystal structure and thermal decomposition of [La<sub>2</sub>(CH<sub>3</sub>CH<sub>2</sub>COO)<sub>6</sub>(H<sub>2</sub>O)<sub>3</sub>]3.5H<sub>2</sub>O precursor for high-k La<sub>2</sub>O<sub>3</sub> thin films deposition", **Materials Research Bulletin**, 45 (2010) 1203–1208.
28. R.B. Mos, M.S. Gabor, M. Nasui, T. Petrisor Jr., C. Badea, A. Rufoloni, L. Ciontea, T. Petrisor, Synthesis of "Epitaxial BaZrO<sub>3</sub> Thin Films by Chemical Solution" **Thin Solid Films**, 518, 4714-4717 (2010).
29. T. Ristoiu, T. Petrisor Jr, M. S. Gabor, M. Nasui, B. Mos, L. Ciontea, T. Petrisor, "Atomic force microscopy study of nanocrystalline ceria thin films," **Journal of Physics: Conference Series**, vol. 182, 2009.

**Patent** Chemical solution deposition method for the La<sub>0.66</sub>Sr<sub>0.33</sub>MnO<sub>3</sub> (LSMO) epitaxial thin films, Mircea NASUI, Traian PETRIŞOR Jr, Ramona Bianca MOŞ, Amalia MESAROŞ, Mihai Sebastian GABOR, Lelia CIONTEA, Traian PETRIŞOR. RO patent application No. **A/00098/2015**

- Presentations**
- ASC 2018-Applied Superconductivity Conference – Seattle 28oct-04Nov 2018
  - 14th Ceramics Congress – CIMTEC 2018, Perugia, Italia 04-08 iunie, 2018.
  - Conferinta internationala biennial European Conference on Applied Superconductivity-EUCAS, Geneva, Elvetia, 2017.
  - Antreprenoriat, Mediu de Afaceri și Dezvoltare Durabilă – AMDD 2015 , 19 – 20 noiembrie 2015 Sedința de lucru în cadrul proiectului NESPA, Cambridge, Anglia, 5-8 septembrie 2010;
  - 2nd Transylvanian NMR Workshop in Cluj – Napoca” 18-21 Septembrie 2009 ;
  - International Conference Students for Student, Cluj–Napoca, 18-28 aprilie 2008 .

- Projects**
- TE 2016-2465 “Senzor mixt supraconductor-magnetorezistiv de camp magnetic, de sensibilitate inalta, pentru aplicatii bio-medicale”, (2018-2020)- researcher
  - CICDI-1991-UTCN- Proiect intern de cercetare „Filme supraconductoare cu nano-centri magnetici obținute chimic pentru eficientizarea transportului energiei electrice ” < SUPRAMAG (2017-2018)- director de proiect
  - TE 133/2018 - Miezuri magnetice compozite pe bază de fibre produse prin presare și sinterizare în plasmă (2018-2020) - cercetator stiintific
  - TE 2016-2465 “Senzor mixt supraconductor-magnetorezistiv de camp magnetic, de sensibilitate inalta, pentru aplicatii bio-medicale”, (2018-2020)- cercetator stiintific
  - TE-2016-2131- „Dispozitive spin-orbitronice pentru memorii magnetice non-volatile – SOTMEM”- (2018-2020)- cercetator stiintific
  - 88PED – „Limitatori de curent de scurt-circuit pe baza de supraconductori de temperatura inalta” (2017-2018) – researcher ;
  - EURATOM WPMAG-Ro- „Principal/ Quality control monitoring of DEMOMagnets (conductors, joints, strands) by fully 3D X-ray microtomography, contract nr. 1-EU-9/05.06.2014” – team member;
  - PNII-PCCA- ”Straturi YBa2Cu3O7 groase cu parametri imbunătățiți pentru acoperiri supraconductoare (TYBCO)” - researcher (2012-2016);
  - FP7 - “European development of Superconducting Tapes: integrating novel materials and architectures into cost effective processes for power applications and magnets – EUROTAPES” researcher (2012-2017);
  - PNII-PCCE - Efectele dopajului si ale dimensionalitatii asupra proprietatilor magnetice, structurale si morfologice si dinamici de spin in micro si nanostructuri oxidice feromagnetice - - team member - membru in echipa de cercetare (2010-2013);
  - TE - 333/2015 - Nano-centri de ancorare magnetica a vortexurilor în filme subtiri epitaxiale supraconductoare de temperatură înaltă- researcher CS;
  - TE, 29317/08.12.2014 Internal research project “Advanced materials with applications for spintronic devices for information storage technologies” MADSPIN, (2014-2015), Researcher
  - CI - 29316 - Smart windows for green house – researcher;
- Conferences**
- Workshop UTCN-ENEA Frascati, Italy, 15-30 June 2008, 14-25 May 2012- poster presentation
  - European Conference on Applied Superconductivity, 15-19 septembrie, 2013, Genova, Italia – prezentare poster
  - European Materials Research Society E-MRS Strasbourg, Franta, 8-12 iunie 2010 – poster presentation;
  - Workshop UTCN-ENEA Frascati, Italy, 15-30 June 2012, 14-25 May 2008
  - International Conference on Coated Conductors for Applications” 14-16 Noiembrie, 2012 Heidelberg, Germany – poster presentation ;
  - Workshop UTCN-ENEA Frascati, Italy, 15-30 June 2008, 14-25 May 2012
  - 1st Central and Eastern European Conference on Thermal Analysis and Calorimetry CEEC-TAC1, 7-10 September 2011 – Craiova – poster presentation
  - 2nd Transylvanian NMR workshop, 18-21 September 2009, Cluj-Napoca, Romania - oral presentation)
  - National conference, PIM , Cluj Napoca, septembrie 2009- poster presentation
- References**
- 5 new single-crystals were indexed in the Cambridge Crystallographic Data Center, as new crystal structures
- Prize**
- International prizes: At 5<sup>th</sup> International Conference, “Students for students”, Babes-Bolyai University, “**The prize for the scientific content and presentation**” granted by the Chemistry Society of Romania, with the oral presentation entitled: “*La0.66Sr0.33MnO3 thin films by chemical methods*” Cluj-Napoca, 18-20 April, 2008

Dr. Mircea Nasui