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EDUCATION:

2002: B.Sc. in Physics, University of Bucharest (Romania), Department of Applied Physics. Dissertation title: *Magnetic properties of certain lanthanum-based manganites*, Advisor Dr. Minola Lenovici.

2004: M.Sc. in Physics, University of Bucharest (Romania), Department of Solid State Physics. Dissertation title: *Interface quantum effects in Ni/C₆₀ nanostructures*. Advisor: Dr. Adrian Dafinei.

2014: Ph.D. in Physics, University of Bucharest (Romania). Thesis title: *Structural and magnetic properties of certain thin films*, advisor Dr. Mircea Morariu.

POSITIONS:

2002-2004: Assistant Researcher, National Institute of Material Physics (NIMP), Atomistilor 105bis, 077125 Romania.

2005-2006: Invited Researcher, CMS Collaboration Laboratory, National Institute of Nuclear Physics, Pisa, Italy.

2006-2014: Ph.D. student, University of Bucharest, Faculty of Physics, Romania.

2006-2011: Assistant Researcher, National Institute of Material Physics (NIMP), Atomistilor 105bis, 077125-Magurele, IF, Romania.

2011-2016: Researcher, National Institute of Material Physics (NIMP), Atomistilor 405A, 077125-Magurele, IF, Romania.

2016-present: Researcher III, National Institute of Material Physics (NIMP), Atomistilor 405A, 077125-Magurele, IF, Romania.

LANGUAGES:

Romanian (native), Italian (fluent), English (fair).

PROGRAMMING:

Wavemetrics IgorPro, Autodesk AutoCAD, Wolfram Mathematica.

PUBLICATIONS:

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1. *Structural and magnetic investigations of nickel clusters in C₆₀ matrices*, C.M. Teodorescu, D. Macovei,

A. Lungu, J. Optoelectr. Adv. Mater. **6**(4), 1275-1285 (2004).

2. *CMS physics technical design report, volume II: Physics performance*, G.L. Bayatian, S. Chatrchyan, (...), **G.A. Lungu**, (...), B.S. Yuldashev, **J. Phys. G-Nucl. Part. Phys.** **34**(6), 995-1579 (2007).

3. *CMS physics technical design report: Addendum on high density QCD with heavy ions*, S.Chatrchyan, G. Hmayakyan, (...) G.A. Lungu, (...), A. Zabi, **J. Phys. G-Nucl. Part. Phys.** **34**(11), 2307-2455 (2007).
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8. *Band ferromagnetism in systems of variable dimensionality II: the two-dimensional finite-temperature case*, G.A. Lungu, C.M. Teodorescu, **J. Optoelectr. Adv. Mater.** **11**(4), 369-379 (2009).
9. *Stand-alone cosmic muon reconstruction before installation of the CMS silicon strip tracker*, W. Adam, T. Bergauer, (...), G.A. Lungu, (...), K.V. Tsang, **J. Instrum.** **4**(5), P05004:1-36 (2009).
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12. *Preparation and characterization of iron oxides embedded in fullerite matrices*, G.A. Lungu, D. Macovei, C.M. Teodorescu, **Digest J. Nanomater. Biostruct.** **5**(1), 85-95 (2010).
13. *Thermodynamic destabilization of Li-N-H system by Si addition*, P. Palade, G.A. Lungu, A.M. Husanu, **J. Alloy. Compd.** **505**(1), 343-347 (2010).
14. *Enhanced contamination of Si(001) when analyzed with AES with respect to XPS*, N.G. Gheorghe, G.A. Lungu, R.M. Costescu, D.G. Popescu, C.M. Teodorescu, **Optoelectron. Adv. Mater. - Rapid Commun.** **5**(5-6), 499-504 (2011).
15. *Significantly different contamination of atomically clean Si(001) when investigated by XPS and AES*, N.G. Gheorghe, G.A. Lungu, R.M. Costescu, C.M. Teodorescu*, **Phys. Stat. Solidi B** **248**, 1919-1924 (2011).
16. *Atomic structure and magnetism of PLD deposited TiO₂:Fe*, R.M. Costescu, G.A. Lungu, G. Socol, N.G. Gheorghe, D. Macovei, C.C. Negrila, C. Logofatu, M.A. Husanu, D.G. Popescu, C.A. Tache, C.M. Teodorescu, **Digest J. Nanomater. Biostruct.** **7**(1), 73-78 (2012).
17. *Reactivity, magnetism and local atomic structure in ferromagnetic Fe layers deposited on Si(001)*, N.G. Gheorghe, M.A. Husanu, G.A. Lungu, R.M. Costescu, D. Macovei, D.G. Popescu, C.M. Teodorescu, **Digest J. Nanomater. Biostruct.** **7**(1), 373-384 (2012).
18. *Interface characterization and atomic intermixing processes in Be/W bilayers deposited on Si(001) substrates with Fe buffer layers*, V. Kuncser, P. Palade, G. Schinteie, S.G. Sandu, L. Trupina, G.A. Lungu, N.G. Gheorghe, C.M. Teodorescu, C. Porosnicu, I. Jepu, C.P. Lungu, G. Filoti, **J. Alloy. Compd.** **512**(1), 199-206 (2012).
19. *Atomic structure and reactivity of ferromagnetic Fe deposited on Si(001)*, N.G. Gheorghe, M.A. Husanu, G.A. Lungu, R.M. Costescu, D. Macovei, C.M. Teodorescu, **J. Mater. Sci.** **47**(4), 1614-1620 (2012).
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21. *Band ferromagnetism in systems with linear density of states*, G.A. Lungu, N.G. Apostol, M. Morariu, C.M. Teodorescu, **Digest J. Nanomater. Biostruct.** **7**(4), 1615-1626 (2012).
22. *Epitaxial ferromagnetic samarium and samarium silicide synthesized on Si(001)*, R.M. Costescu, N.G. Gheorghe, M.A. Husanu, G.A. Lungu, D. Macovei, I. Pintilie, D.G. Popescu, C.M. Teodorescu, **J. Mater. Sci.** **47**(20), 7225-7234 (2012).

23. *Manganese-based room temperature ferromagnetism in gallium arsenide*, V. Vasilache, N.G. Apostol, G.A. Lungu, D. Macovei, C.M. Teodorescu, **Optoelectron. Adv. Mater.-Rapid Commun.** **6**(11-12), 1054-1060 (2012).
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25. *Room temperature ferromagnetic, anisotropic, germanium rich FeGe(001) alloys*, G.A. Lungu, N.G. Apostol, L.E. Stoflea, R.M. Costescu, D.G. Popescu, C.M. Teodorescu, **Materials** **6**(2), 612-625 (2013).
26. *Structure, reactivity, electronic configuration and magnetism of samarium atomic layers deposited on Si(001) by molecular beam epitaxy*, N.G. Gheorghe, G.A. Lungu, M.A. Husanu, R.M. Costescu, D. Macovei, C.M. Teodorescu, **Appl. Surf. Sci.** **267**, 106-111 (2013).
27. *Dependence of the strain diffraction line broadening on (hkl) and sample direction in textured polycrystals*, N.C. Popa, G.A. Lungu, **J. Appl. Crystallogr.** **46**(2), 391-395 (2013).
28. *Co environment and magnetic defects in anatase $Co_xTi_{1-x}O_2$ nanopowders*, M.N. Grecu, D. Macovei, D. Ghica, C. Logofatu, S. Valsan, N.G. Apostol, G.A. Lungu, R.F. Negrea, R.R. Piticescu, **Appl. Phys. Lett.** **102**(16), 161909:1-5 (2013).
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30. *Band bending in Au/Pb(Zr,Ti)O₃ investigated by X-ray photoelectron spectroscopy: dependence on the initial state of the film*, N.G. Apostol, L.E. Stoflea, G.A. Lungu, L.C. Tanase, C. Chirila, L. Frunza, L. Pintilie, C.M. Teodorescu, **Thin Solid Films** **545**, 13-21 (2013).
31. *Band bending at free Pb(Zr,Ti)O₃ surfaces analyzed by X-ray photoelectron spectroscopy*, N.G. Apostol, L.E. Stoflea, G.A. Lungu, C.A. Tache, D.G. Popescu, L. Pintilie, C.M. Teodorescu, **Mater. Sci. Eng. B** **178**, 1317-1322 (2013).
32. *Room temperature ferromagnetic Mn:Ge(001)*, G.A. Lungu, L.E. Stoflea, L.C. Tănase, I.C. Bucur, N. Răduțoiu, F. Vasiliu, I. Mercioniu, V. Kuncser, C.M. Teodorescu, **Materials** **7**(1), 106-129 (2014).
33. *Effects of annealing in Be/W and Be/C bilayers deposited on Si(001) substrates with Fe buffer layers*, G. Schinteie, S.G. Greculeasa, P. Palade, G.A. Lungu, C. Porosnicu, I. Jepu, C.P. Lungu, G. Filoti, V. Kuncser, **J. Nucl. Mater.** **457**, 220-226 (2015).
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35. *Aspects of native oxides etching on n-GaSb(100) surface*, C. Cotirlan, R.V. Ghita, C.C. Negrila, C. Logofatu, F. Frumosu, G.A. Lungu, **Appl. Surf. Sci.** **363**, 83-90 (2016).
36. *Growth mechanisms and band bending studies in Cu and Pt on Ge(001) investigated by LEED and photoelectron spectroscopy*, L.C. Tănase, A.E. Bocîrneă, A.B. Șerban, L.E. Abramiuc, I.C. Bucur, G.A. Lungu, R.M. Costescu, C.M. Teodorescu, **Surf. Sci.** **653**, 97-106 (2016).
37. *Be/W and W/Be bilayers deposited on Si substrates with hydrogenated Fe-Cr and Fe-Cr-Al interlayers for plasma facing components*, S.G. Greculeasa, P. Palade, G. Schinteie, G.A. Lungu, C. Porosnicu, I. Jepu, C.P. Lungu, V. Kuncser, **J. Nucl. Mater.** **481**, 73-80 (2016).
38. *Long-range magnetic interaction in Mn_xGe_{1-x} : structural, spectromicroscopic and magnetic investigations*, L.C. Tanase, G.A. Lungu*, L.E. Abramiuc, I.C. Bucur, N.G. Apostol, R.M. Costescu, C.A. Tache, D. Macovei, A. Barinov, C.M. Teodorescu, **J. Mater. Sci** **52**(6), 3309-3320 (2017).

39. *Significant change of local atomic configurations at surface of reduced activation Eurofer steels induced by hydrogenation treatments*, S.G. Greculeasa, P. Palade, G. Schinteie, A. Kuncser, A. Stanciu, G.A. Lungu, C. Porosnicu, C.P. Lungu, V. Kuncser, **Appl. Surf. Sci.** **402**, 114-119 (2017).
40. *Low energy electron diffraction from ferroelectric surfaces. Dead layers and surface dipoles in clean Pb(Zr,Ti)O₃(001)*, C.M. Teodorescu, L. Pintilie, N.G. Apostol, R.M. Costescu, G.A. Lungu, L. Hrib, L. Trupina, L.C. Tanase, I.C. Bucur, A.E. Bocirnea, **Phys. Rev. B** **96**(11), 115438:1-15 (2017).
41. *Structural and magnetic properties of Ni nanofilms on Ge(001) by molecular beam epitaxy*, A.E. Bocirnea, R.M. Costescu, I. Pasuk, G.A. Lungu, C.M. Teodorescu, **Appl. Surf. Sci.** **424**, 337-344 (2017).
42. *Triggering surface ferroelectric order in Pb(Zr,Ti)O₃(001) by deposition of platinum*, I.C. Bucur, L.C. Tanase, L.E. Abramiuc, G.A. Lungu, C. Chirila, L. Trupina, N.G. Apostol, R.M. Costescu, R.F. Negrea, L. Pintilie, C.M. Teodorescu, **Appl. Surf. Sci.** **432**, 27-33 (2018).
43. *Room temperature ferromagnetism and its correlation to ferroelectricity of manganese embedded in lead zirco-titanate*, I.C. Bucur, N.G. Apostol, L.E. Abramiuc, L.C. Tanase, C.A. Tache, G.A. Lungu, R.M. Costescu, C.F. Chirila, L. Trupina, L. Pintilie, C.M. Teodorescu, **Thin Solid Films** **669**, 440-449 (2019).
44. *Resistance hysteresis in atomic layers of carbon synthesized on ferroelectric (001) lead zirconate titanate in ultrahigh vacuum*, N.G. Apostol, D. Lizzit, G.A. Lungu, P. Lacovig, C.F. Chirila, L. Pintilie, S. Lizzit, C.M. Teodorescu, **RSC Adv.** **10**(3), 1522-1534 (2020).
45. *CO adsorption and oxidation at room temperature on graphene synthesized on atomically clean Pt(001)*, N.G. Apostol, I.C. Bucur, G.A. Lungu, C.A. Tache, C.M. Teodorescu, **Catal. Today** **366**, 155-163 (2021).
46. *Independent and complementary bio-functional effects of CuO and Ga₂O₃ incorporated as therapeutic agents in silica- and phosphate- based bioactive glasses*, T. Tite, A.C. Popa, B.W. Stuart, H.R. Fernandes, I.M. Chirica, G.A. Lungu, D. Macovei, C. Bartha, L. Albulescu, C. Tanase, S. Nita, N. Rusu, D.M. Grant, J.M.F. Ferreira, G.E. Stan, **J. Materiomics** **8**(4), 893-905 (2022).

Papers in work / submitted / in review:

1. Spin polarization in graphene grown on Pt(001) and its quenching by hydrogenation, C.M. Teodorescu*, N.G. Apostol, D. Lizzit, G.A. Lungu, A. Nicolaev, C.A. Tache, S. Lizzit, P. Lacovig, A.C. Pena, Phys. Rev. Lett., revision in progress (2022).
2. Adsorption geometry and electronic structure of carbon monoxide on Pt(001), N.G. Apostol, R.M. Costescu, A. Nicolaev, D. Lizzit, M. Schied, E. Tosi, G.A. Lungu, L.E. Borcan, C.A. Tache, S. Lizzit, P. Lacovig, C.M. Teodorescu*, to be submitted to Phys. Rev. Lett. (2023).
3. Intercalation of carbon monoxide between graphene and Pt(001), N.G. Apostol, A. Nicolaev, R.M. Costescu, D. Lizzit, M. Schied, E. Tosi, I.C. Bucur, G.A. Lungu, C.A. Tache, P. Lacovig, S. Lizzit, C.M. Teodorescu*, to be submitted to 2D Mater (2023).

Book chapters:

1. N.G. Gheorghe, M.A. Husanu, G.A. Lungu, D. Macovei, V. Kuncser, R.M. Costescu, D.G. Popescu, C.M. Teodorescu, *Growth and characterization of ultrathin Fe magnetic layers deposited on atomically clean Si(001) by molecular beam epitaxy*, **Nanomaterials and nanostructures for various applications**, G. Brezeanu, H. Iovu, C. Cobianu, D. Dascălu (Eds.), Ed. Academiei Române, Bucharest, pp. 225-244 (2012), ISBN: 978-973-27-2169-8.
2. G.A. Lungu, N.G. Apostol, C.M. Teodorescu, *Basic concepts in ferromagnetism of diluted magnetic semiconductors. The case of manganese embedded in Ge(001)*, **Nanomagnetism**, J.M. Gonzalez Estevez (Ed.), OneCentralPress, Manchester, pp. 74–110 (2014), ISBN: 978-1-910086-05-6.