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H=29 (Scopus 2328 citations Oct. 2024)

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Employment and professional experience: Since 2005 - Associate Professor at Angers University, France, Since 2006 - Head of the group "Thin films for photovoltaic applications", 2020-2021 - Mc Member COST INNOVATORS' GRANT ITHACA, 2018-2021 - Substitute Mc Member COST PEARLE PV, 2017-2020 - Mc Member COST CRM-Extreme, 2004-2005 - Temporally Attached Professor at ENSAM Engineering School, Angers, France, 1995-2005 - Assistant Professor then Lecturer at "Al.I.Cuza" University of Iasi, Romania, 1999-2014 - Visiting Associate Professor (University of Athens, UCD Dublin, Limoges, National Institute of Materials Physics Bucharest)

Awards: Outstanding Reviewer for Thin Solid Films, Best Oral presentation, International Conference "Moderns Technologies", 2019, PEDR/PES (Excellence in Science): 2007-2011, 2012-2016, 2016-2020, 2020-2024

Ranking: [top 2% Stanford World Ranking](https://topresearcherslist.com/Home/Profile/941205)
(<https://topresearcherslist.com/Home/Profile/941205>)

Publications and dissemination: Author of more than 100 peer-reviewed publications in the materials and energy materials area published in: Solar Energy Materials and Solar Cells, Materials Today, Thin solid films, Applied Surface Science, Surface Coatings and Technology, Synthetic Metals etc.. Among the Journals citing the author we mention: Science, Journal of the Am. Chem. Soc., Energy and Environment Science, Chem. of Mat., Organic Electronics, Appl. Phys. Lett., Sol. Eng. & Sol. Cells etc). Author of one book and of two books chapters, more than 100 presentations in international conferences (36 invited). **Author of the book: *Future Solar Energy Devices*, Springer, 2017.**

Publications : <https://sites.google.com/view/mihaelagirtan/publications>

Conferences : <https://sites.google.com/view/mihaelagirtan/conferences>

Invited Talks : **Plenary Talk**, Moderns Technologies, Eforie Nord, Romania (2020), Invited talk, ROCAM (2024), EMRS International Conference, Strasbourg (2021), Pristina, Kosovo (2021), Skopje, Macedonia (2022, 2023), Dublin Institute of Technology (2018), 20-th International Conference-School Advanced Materials and Technologies, Palanga, Lithuania (2018), Invited seminar, Angstrom Laboratory, Uppsala University, Sweden (2018), Trinity College Dublin, Ireland (2018), INSA, Rennes (2018), Invited lecture, Training School Solutions for critical raw materials, Sofia, Bulgaria (2018), EMRS, Warsaw, Poland (2018), Invited talk, ROCAM – International conference, July, Bucharest, Invited seminar Vilnius University, PAMS-2 International Conference, Cluj-Napoca (2016), International Summer School on Materials for Energy Conversion, Bucharest, Invited talk, "Lights of the World", event organized by UNESCO, Bucharest (2015) International Summer School on Materials for Energy Conversion, Bucharest (2015), Invited seminar University College Dublin (2014), University of Athens (2013), National Hellenic Research Foundation, Athens (2012), ISAOP Tokyo, Japan (2010), invited seminar XLIM, Limoges (2010), Institute Charles Sadron (2010), ISAOP 3-4 Sept, Shanon, Ireland (2009).

Projects & Grants: 12 project proposals as PI and 5 as co-PI, on the total of these 17, 10 were funding; between these we would like to mention: Co-PI in ANR - OxTiMIBPhotobat. (2007-2009); Co-PI in the European Project FP6 – ORGAPVNET (2006-2009); PERLE 1 (2006-2009), PERLE 2 (2010-2013), Co-PI in the European Project ERA-RUS-NET (2012-2013), PI of one national project and Co-PI of three PHC bilateral cooperation projects: PHC Brancusi (2015-2016), PHC Platon (2013-2014), PHC Brancusi (2009-2010), PHC Ulysses – Ireland (2018), TOR – Sweden (2018)

Academic activities: Advising and co-advising of: 5 post-doc, 16 PhD students, 8 students in Master II and 15 students in Master I; Member of: PhD defence commissions (12 PhD thesis), Member of: scientific societies (ACS, EPS and EMRS); Associate member of: the Academy of Science, Belle-Letters and Arts, Angers; Reviewer for scientific journals; Editor AIMS Energy, Member of: AUF Commission expertise; Member of scientific networks: ORGAPVNET, NANORGASOL, ATLANSUN; Head of: the Professional Training "Energy demand management and renewable energy"; Head of: the Research group "Thin films for photovoltaic applications" – LPHIA. Coordinator of: the ERASMUS Program FR-RO «Solar cells and plasma applications in surface science»

PUBLICATIONS (112)

1. R. Fraser, **M. Girtan**, *A Selective Review of Ceramic, Glass and Glass–Ceramic Protective Coatings: General Properties and Specific Characteristics for Solar Cell Applications*, *Materials* 16(11), (2023) 3906
2. P. Lisnic, L. Hrostea, L. Leontie, **M. Girtan**, *Fluorine-Doped SnO₂ Thin Films in Solar Cell Applications. Morphological, Optical and Electrical Properties*, *Arch. Metall. Mater.* 68 (2023), 2, 483-490
3. C.Mita, N.Cornei, G.Bulai, M. Dobromir, **M. Girtan**, A. Doroshkevich, E.Gyorgy, D. Mardare, *The enhancement of the photocatalytic properties of SmFe_{0.7}Co_{0.3}O₃ thin films by synergistic effect of Sr doping and H₂O₂ as co-catalyst*, *Ceramics International* 49 (9) (2023)14225-14237
4. G. Petre, A. Sanculescu, **M. Girtan**, M. Socol, C. Breazu, L. Vacareanu, N. Preda, O. rasoga, F. Stanculescu, A. S. Doroshkevich, *Organic heterostructures with indium-free transparent conductor electrode for opto-electronic applications*, *Physica Status Solidi A*, 219 (2022) 2100521
5. V. Sprincean, L. Leontie, I. Caraman, D. Untila, **M. Girtan**, S. Gurlui, P. Lisnic, C. Doroftei, A. Carlescu, F. Iacomi, M. Caraman, *Optical and Photosensitive Properties of Flexible n (p)–InSe/In₂O₃ Heterojunctions*, *Materials* 15 (2022) 3140
6. O.Rasoga, C. Breazu, M. Socol, A-M. Solonaru, L.Vacareanu, G. Petre, N. Preda, F. Stanculescu, G. Socol, **M. Girtan**, A. Stanculescu, *Effect of Aluminum Nanostructured Electrode on the Properties of Bulk Heterojunction Based Heterostructures for Electronics*, *Nanomaterials* 2022, 12(23), 4230
7. **M. Girtan**, *Carbon-based materials for future photonics devices. A parallel between electronics and photonics*, *Optical Materials*, 125 (2022) 112068
8. **M. Girtan**, B. Negulescu, *A review on oxide/metal/oxide thin films on flexible substrates as electrodes for organic and perovskite solar cells*, *Optical materials X*, 13 (2022) 100122
9. **M. Girtan**, A. Wittenberg, M. L. Grilli, D. P. S. de Oliveira, C. Giosuè, M. L. Ruello, *The critical raw materials issue between scarcity, supply risk, and unique properties*, *Materials* 14(8), (2021) 1826
10. G. Petre, A. Sanculescu, **M. Girtan**, M. Socol, C. Breazu, L. Vacareanu, N. Preda, O. rasoga, F. Stanculescu, A. S. Doroshkevich, *Organic heterostructures with indium-free transparent conductor electrode for opto-electronic applications*, *Physica Status Solidi A*, (2021) 2100521
11. A. Stanculescu, M. Socol, O. Rasoga, C. Breazu, N. Preda, F. Stanculescu, G. Socol, L. Vacareanu, **M. Girtan**, Al. S. Doroshkevich, *Arylenevinylene Oligomer-Based Heterostructures on Flexible AZO Electrodes*, *Materials* 2021, 14(24), 7688
12. J. Walshe, **M. Girtan**, S. McCormack, J. Doran, G. Amarandei, *Combined Experimental and Modeling Analysis for the Development of Optical Materials Suitable to Enhance the Implementation of Plasmonic-Enhanced Luminescent Down-Shifting Solutions on Existing Silicon-Based Photovoltaic Devices*, *ACS Appl. Electron. Mater.* (2021)

13. J. Walshe , **M. Girtan**, S. McCormack , J. Doran, G. Amarandei, *Exploring the development of nanocomposite encapsulation solutions for enhancing the efficiency of PV systems using optical modelling* , Optical Materials 111 (2021) 110654
14. L.Hrostea, P.Lisnic, R.Mallet, L.Leontie, **M.Girtan**, *Studies on the Physical Properties of TiO₂:Nb/Ag/TiO₂:Nb and NiO/Ag/NiO Three-Layer Structures on Glass and Plastic Substrates as Transparent Conductive Electrodes for Solar Cells*, Nanomaterials 11(6) 2021 1416
15. **M. Girtan**, *On the electrical and photoelectrical properties of CH₃NH₃PbI₃ perovskites thin films*, Solar Energy 195, 1 (2020), pp. 446-453
16. **M. Girtan**, R. Mallet, M.Socol, A. Stanculescu, *On the Physical Properties PEDOT:PSS Thin Films*, Materials Today Communications 22 (2020) 100735
17. A. Stanculescu, C. Breazu, M. Socol, O.Rasoga, N. Preda, G. Petre, A.M. Solonaru, M. Grigoras F. Stanculescu, G. Socol, G. Popescu-Pelin, **M.Girtan**, *Effect of ITO electrode patterning on the properties of organic heterostructures based on non-fullerene acceptor prepared by MAPLE*, Applied Surface Science 509 (2020) 145351
18. L. Hrostea, L. Leontie, **M. Girtan**, *Characterization of PBDB-T-SF: fullerene blend thin films for solar cell applications*, Romanian Reports in Physics, 72, 2 (2020)
19. M. Lakhdari, F. Habelhames, B. Nessark, **M. Girtan**, H. Derbal-Habak, Y. Bonnassieux , D. Tondelier, J. M. Nunzi, *Effects of pulsed electrodeposition parameters on the properties of zinc oxide thin films to improve the photoelectrochemical and photoelectrodegradation efficiency*, Eur. Phys. J. Appl. Phys. 84, 30102 (2019)
20. M. Socol, N. Preda, C. Breazu, A. Stanculescu, A. Costas, F. Stanculescu, **M. Girtan**, F. Gherendi, G. Popescu- Pelin, G. Socol, Flexible organic heterostructures obtained by MAPLE , Applied Physics A (2018) 124:60
21. M. Socol, N. Preda, C. Breazu, C. Florica, A. Costas, C.M. Istrate, A. Stanculescu, **M. Girtan**, F. Gherendi, *Organic heterostructures obtained on ZnO/Ag/ZnO electrode*, Vacuum, 154 (2018) pp. 366-370
22. W. Saidi, N. Hfayedh, A. Megriche, **M. Girtan**, M. El Maaoui, *Hydrophilic/hydrophobic and optical properties of B₂O₃ doped TiO₂ sol-gel thin films: Effect of B₂O₃ content, film thickness and surface roughness*, Materials Chemistry and Physics, 215 (2018) pp.31-39
23. C. Breazu, M. Socol, N. Preda, E. Matei, O. Rasoga, **M. Girtan**, R. Mallet, F. Stanculescu, A. Stanculescu, *On the properties of organic heterostructures prepared with nano-patterned metallic electrode*, Applied Surface Science, 443 (2018) 592-602
24. **M.Girtan**, *Future solar energy devices*, Proceedings of SPIE – The International Society for Optical Engineering 10683, 106831Z (2018)
25. L. Hrostea, **M. Girtan**, R. Mallet, L. Leontie, *Optical and Morphological Properties of P3HT and P3HT: PCBM Thin Films Used in Photovoltaic Applications*, IOP Conf. Series: Materials Science and Engineering 374 (2018) 012015

26. M. Socol, N. Preda, O. Rasoga, C. Breazu, I. Stavarache, F. Stanculescu, G. Socol, F. Gherendi, V. Grumezescu, G. Popescu-Pelin, **M. Girtan**, N. Stefan, *Flexible heterostructures based on metal phthalocyanines thin films obtained by MAPLE*, Applied Surface Science, 374 (2016), 403-410
27. A. Stanculescu, G. Socol, L. Vacareanu, M. Socol, O. Rasoga, C. Breazu, **M. Girtan**, F. Stanculescu, *MAPLE preparation and characterization of mixed arylenevinylene based oligomers:C60*, Applied Surface Science, 374, (2016), 278-289
28. **M. Girtan**, *Study of charge carriers' transport in organic solar cells by illumination area shifting*, Solar Energy Materials & Solar Cells 160 (2017) 430–434
29. **M. Girtan**, L. Hrostea, M. Boclinca, B. Negulescu, *Study of oxide/metal/oxide thin films for transparent electronics and solar cells applications by spectroscopic ellipsometry*, AIMS Materials Science, 4(3) (2017) 594-613
30. S. Antohe, S. Iftimie, L. Hrostea, V.A. Antohe, **M. Girtan**, *A Critical Review of Photovoltaic Cells Based on Organic Monomeric and Polymeric Thin Film Heterojunctions*, Thin Solid Films, 642 (2017) 219-231
31. L. Hrostea, M. Boclinca, M. Socol, L. Leontie, A. Stanculescu, **M. Girtan**, *Oxide/metal/oxide electrodes for solar cell applications*, Solar Energy, 146 (2017) 464–469
32. A. Stanculescu, O. Rasoga, M. Socol, L. Vacareanu, M. Grigoras, G. Socol, F. Stanculescu, C. Breazu, E. Matei, N. Preda, **M. Girtan**, *MAPLE prepared heterostructures with oligoazomethine: fullerene derivative mixed layer for photovoltaic applications*, Applied Surface Science, 417, (2017), 183-195
33. M. Socol, N. Preda, A. Stanculescu, C. Breazu, C. Florica, F. Stanculescu, S. Iftimie, **M. Girtan**, G. Popescu-Pelin, G. Socol, *Organic heterostructures deposited by MAPLE on AZO substrate*, Applied Surface Science, 417, (2017), 196-203
34. A. Aukštuolis, **M. Girtan**, G.A. Mousdis, R. Mallet, M. Socol, M.S. R., A. Stanculescu, *Measurement of Charge Carrier Mobility in Perovskite Nanowire Films by Photo-Celiv Method*, Romanian Academy Series A, 18, 1/(2017), pp. 34–41
35. C. Breazu, N. Preda, M. Socol, F. Stanculescu, E. Matei, I. Stavarache, G. Iordache, **M. Girtan**, O. Rasoga, A. Stanculescu, *Investigations on the properties of a two-dimensional nanopatterned metallic film*, Digest Journal of Nanomaterials and Biostructures Vol. 11, No. 4, (2016), 1213 – 1229
36. O. Maalej, J. Merigeon, B. Boulard, **M. Girtan**, *Visible to near-infrared down-shifting in Tm³⁺ doped fluoride glasses for solar cells efficiency enhancement*, Optical Materials, 60 (2016) 235–239
37. M. Socol, N. Preda, O. Rasoga, C. Breazu, I. Stavarache, F. Stanculescu, G. Socol, F. Gherendi, V. Grumezescu, G. Popescu-Pelin, **M. Girtan**, N. Stefan, *Flexible heterostructures based on metal phthalocyanines thin films obtained by MAPLE*, Applied Surface Science, 374 (2016), 403-410
38. A. Stanculescu, G. Socol, L. Vacareanu, M. Socol, O. Rasoga, C. Breazu, **M. Girtan**, F. Stanculescu, *MAPLE preparation and characterization of mixed arylenevinylene based oligomers:C60*, Applied Surface Science, 374, (2016), 278-289

39. P. Koralli, S. F. Varol, M. Kompitsas, **M. Girtan**, *Brightness of Blue/Violet Luminescent Nano-Crystalline AZO and IZO Thin Films with Effect of Layer Number: For High Optical Performance*, Chin. Phys. Lett. Vol. 33, No. 5 (2016) 056801
40. W. Saidi, N. Hfaïdh, **M. Girtan**, A. Megriche, M. El Maaoui, *Effect of B₂O₃ addition on optical and structural properties of TiO₂ as a new blocking layer for multiple dye sensitive solar cell application (DSSC)*, RSC Advances, (2016), 6, 68819-68826
41. J. Merigeon, O. Maalej, B. Boulard, A. Stanculescu, L. Leontie, D. Mardare, **M. Girtan**, *Studies on Pr³⁺–Yb³⁺ codoped ZBLA as rare earth down convertor glasses for solar cells encapsulation*, Optical Materials, 48, (2015) p.243-246
42. M. Socol, O. Rasoga, C. Breazu, G. Socol, N. Preda, I. Pasuk, D. Visan, I. Stavarache, F. Gherendi, **M. Girtan**, U. Sidwaba, *Heterostructures based on small molecules organic compounds*, Digest Journal of Nanomaterials and Biostructures, in print 10 (4), (2015).
43. S. Iftimie, R. Mallet, J. Merigeon, L. Ion, **M. Girtan**, S. Antohe, *On the structural, morphological and optical properties of ITO, ZnO, ZnO:Al and NiO thin films obtained by thermal oxidation* Digest Journal of Nanomaterials and Biostructures, 10, 1, (2015) p.221-229
44. C. Adomnitei, S. Tascu, D. Luca, M. Dobromir, **M. Girtan**, D. Mardare, *Nb doped TiO₂ thin films as photocatalytic materials*, Bulletin of Materials Science Vol. 38, No. 5, (2015) p.1259-1262
45. **M. Girtan**, *Is photonics the new electronics?*, Materials Today, 17, Is. 3, (2014), p.100-101
46. O. Toma, L. Ion, **M. Girtan**, S. Antohe, *Optical, morphological and electrical studies of thermally vacuum evaporated CdTe thin films for photovoltaic applications*, Solar Energy, 108 (2014) p.51–60
47. **M. Girtan**, R. Mallet, *On the electrical properties of transparent electrodes*, Proceedings of the Romanian Academy, Series A, Vol.15, No. 2 (2014), p.146–150
48. R. Danac, L. Leontie, **M. Girtan**, M. Prelipceanu, A. Graur, A. Carlescu, G.I. Rusu *On the direct current electric conductivity and conduction mechanism of some stable disubstituted 4-(4-pyridyl)pyridinium ylides in thin films* Thin Solid Films, 556 (2014) p.216-222
49. L. Leontie, I. Evtodiev, N. Spalatu, M. Caraman, S. Evtodiev, O. Racovet, **M. Girtan**, C. Focsa *Optical and photosensitive properties of lamellar nanocomposites obtained by Cd intercalation of GaTe* Journal of Alloys and Compounds, 584 (2014) p.542-545
50. **M. Girtan** *On the stability of the electrical and photoelectrical properties of P3HT and P3HT:PCBM blends thin films* Organic Electronics, 14 (1), (2013) p.200-205
51. **M. Girtan**, A. Vlad, R. Mallet, M.A. Bodea, J.D. Pedarnig, A. Stanculescu, D. Mardare, L. Leontie, S. Antohe *On the properties of aluminium doped zinc oxide thin films deposited on plastic substrates from ceramic targets* Applied Surface Science, 274 (2013) p.306-313
52. Antohe, L. Ion, **M. Girtan**, O. Toma *Optical and Morphological Studies of Thermally Vacuum Evaporated ZnSe Thin Films* Romanian Reports in Physics, 65, 3 (2013) p.805-811

53. C. Adomnitei, D. Luca, **M. Girtan**, I. Sandu, V. Nica, A.V. Sandu, D. Mardare *Nb-doped TiO₂ thin films deposited by spray pyrolysis method* Journal of Optoelectronics and Advanced Materials, Vol.15, 5-6, (2013) p.519-522
54. A.V. Manole, M. Dobromir, **M. Girtan**, R. Mallet, G. Rusu, D. Luca *Optical properties of Nb-doped TiO₂ thin films prepared by sol-gel method* Ceramics International, 39(5) (2013) p.4771-4776
55. **M.Girtan**, *Comparison of ITO/metal/ITO and ZnO/metal/ZnO Characteristics as Transparent Electrodes for Third Generation Solar Cells* Solar Energy Mat. & Solar Cells 100 (2012) p.153-161
56. I. Vaiciulis, **M. Girtan**, A. Stanculescu, L. Leontie, F. Habelhames, S. Antohe, *On titanium oxide spray deposited thin films for solar cells applications* Proceedings of the Romanian Academy, Series A, 13,4/2012, p.335 -342
57. F. Stanculescu, Anca Stanculescu, **M. Girtan**, Marcela Socol, Oana Rasoga, *Effect of the morphology on the optical and electrical properties of polycarbonate film doped with aniline derivatives monomers*, Synthetic Metals, 161 (23-24) (2012) p.2589 – 2597
58. D. Mardare, A. Yildiz, **M. Girtan**, A. Manole, M. Dobromir, M. Irimia, C. Adomnitei, N. Cornei, D. Luca *Surface Wettability of Titania Thin Films with Increasing Nb Content* Journal of Applied Physics, 112 Is. 7, art. no. 073502 (2012)
59. L. Leontie, R. Danac, **M. Girtan**, A. Carlescu, A. P. Rambu, Gh. I. Rusu *Electron transport properties of some new 4-tert-butylcalix[4]arene derivatives in thin films* Materials Chemistry and Physics, 135 (1), (2012) p.123-129
60. M. Soylu, **M.Girtan**, F. Yakuphanoglu *Properties of PEDOT:PEG/ZnO/p-Si heterojunction diode* Materials Science and Engineering B, 177, 11 (2012) p.785-790
61. F. Habelhames, **M. Girtan**, A. Manole, L. Lamiri, Z. Wided, N. Belkacem *Enhancement of photoelectrochemical and optical characteristics using a TiO₂ nanoparticles interlayer in MEH-PPV heterojunction devices* Technical Proceedings of the 2012 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2012 , pp. 420-423
62. S. Iftimie, A. Radu, M. Radu, C. Besleaga, I. Pana, S. Craciun, **M.Girtan**, L. Ion, S. Antohe, *Influence of PEDOT:PSS layer on the performances of "bulk-heterojunction" photovoltaic cells based on MEH-PPV:PCBM(1:4) polymeric blends*, Digest Journal of Nanomaterials and Biostructures, 6, Is. 4, (2011), p.1631-1638
63. A. Stanculescu, M. Socol, G. Socol, I. N. Mihailescu, F. Stanculescu, **M. Girtan** *Maple Prepared Organic Heterostructures for Photovoltaic Applications*, Applied Physics A-Materials Science & Processing 104 (3) (2011) p.921-928
64. A. Stanculescu, L. Vacareanu, M. Grigoras, M. Socol, G. Socol, F. Stanculescu, N. Preda, E. Matei, I. Ionita, **M. Girtan**, I. N. Mihailescu *Thin Films of Arylenevinylene Oligomers Prepared by Maple for Applications in Non-Linear Optics*, Applied Surface Science 257 (2011) p.5298-5302
65. A. Radu, S.Iftimie, V. Ghenescu, C. besleaga, V.A. Antohe, G.Bratina, L.Ion, S.Craciun, **M.Girtan**, S.Antohe *The influence of LiF layer abd ZnO nanoparticles addings on the performances of flexible photovoltaic cells based on polymer blends*, Digest Journal of Nanomaterials and Biostructures, Vol 6, no 3 (2011) p.1141-1148

66. F-Z. Ghomrani, S.Iftimie, N. Gabouze, A. Serier, M.Socol, A. Stanculescu, F. Sanchez, S.Antohe, **M.Girtan** *Influence of Al Doping Agents Nature on the Physical Properties of Al:ZnO Films Deposited by Spin-Coating Technique* Optoelectronics and Advanced Materials – R. Comm. Vol 5. Is.3 (2011) p.247-251
67. A. Stanculescu, M. Socol, G. Socol, I.N. Mihailescu, **M. Girtan**, N.Preda, A.-M. Albu, F. Stanculescu, *Effect of maleic anhydride-aniline derivative buffer layer on the properties of flexible substrate heterostructures: Indium tin oxide/nucleic acid base/metal*, Thin Solid Films, 520 (4) (2011) p.1251-1258
68. **M. Girtan**, M. Rusu *Role of ITO and PEDOT:PSS in Stability/Degradation of Polymer : Fullerene Bulk Heterojunctions Solar Cells* Solar Energy Materials and Solar Cells 94 (3) (2010) p.446 – 450
69. **M. Girtan**, M. Socol, B. Pattier, M. Sylla, A. Stanculescu *On the Structural, Morphological, Optical and Electrical properties of Sol-Gel Deposited ZnO:In Films* Thin Solid Films 519 (2),(2010) p.573-577
70. F. Habelhames, B. Nessark, **M. Girtan**, *Electrosynthesis of organic-inorganic compounds (p-n heterojunction)* Materials Science in Semiconductor Processing 13 (2010) p.141-146
71. A. Stanculescu, A. M. Albu, G. Socol, F. Stanculescu, M. Socol, N. Preda, O. Rasoga, **M. Girtan**, I. Iulian *MAPLE deposited thin monomer films of maleimide derivatives for photonics* Journal of Optoelectronics and Advanced Materials, 12 (3) (2010) p.731-736
72. M. Socol, O. Rasoga, F. Stanculescu, **M. Girtan**, A. Stanculescu, *Effect of the morphology on the optical and electrical properties of TPyP thin films deposited by vacuum evaporation*, Optoelectronics and Advanced Materials – R. Comm., 4, (12), (2010), p.2032-2038
73. **A. Taouri**, H. Derbal, R. Mountasser, **M. Girtan**, A. Stanculescu, **M. Sylla** *Study of multiphoton absorption processes in a peryleneimide derivative using thermal lensing technique* Optoelectronics and Advanced Materials – R. Comm., 4 (1), (2010) p.83-85
74. **M. Girtan**, M. Kompitsas, R. Mallet, I. Fasaki *On Physical Properties of Undoped and Al and In Doped Zinc Oxide Films Deposited on PET Substrates by Reactive Pulsed Laser Deposition* European Physical Journal - Applied Physics 51, 3, (2010) art.no. 33212
75. D. Mardare, F. Iacomi, N. Cornei, **M. Girtan**, D. Luca *Undoped and Cr-Doped TiO₂ Thin Films Obtained by Spray Pyrolysis* Thin Solid Films 518 (2010) p.4586-458
76. **M. Girtan**, R. Mallet, D. Caillou, G. G. Rusu, M. Rusu, *Thermal stability of poly(3,4-ethylenedioxythiophene)-polystyrenesulfonic acid films electrical properties*, Superlattices and Microstructures, 46 (1-2), (2009) p.44-51
77. N. Iftimie, D. Luca, F. Iacomi, **M. Girtan**, D. Mardare *Gas sensing materials based on TiO₂ thin films* Journal of Vacuum Science and Technology B 27 (1) (2009) p.538-541
78. **M. Girtan**, S. Dabos-Seignon, A.Stanculescu *On morphological, structural and electrical properties of vacuum deposited pentacene thin films*, Vacuum 83 (9), (2009) p.1159-1163

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80. Farid HabElhames, B. Nessark, **M. Girtan**, L. Guerbouz, *Optical and photo-electrochemical characterization of organic-inorganic photosensitive materials*, 2009 3rd ICTON Mediterranean Winter Conference, art. no. 5385533
81. **M. Girtan**, S. Dabos-Seignon, G.G. Rusu, M.Rusu *Structural and electrical properties of zinc oxide thin films prepared by thermal oxidation* Applied Surface Science, 254, 13 (2008) p.4179-4185
82. M. Rusu, G.G. Rusu, **M. Girtan**, S. Dabos Seignon *Structural and optical properties of ZnO thin films deposited onto ITO/glass substrates* Journal of Non-Crystalline Solids 354 (2008) p.4461-4464
83. G.G. Rusu, **M. Girtan**, M.Rusu *Preparation and characterization of ZnO thin films prepared by thermal oxidation of Zn thin films* Superlattices and Microstructures 42 (2007) p.116-122
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1. **M. Girtan**, (auteur unique) *Future Solar Energy Devices*, ISBN 978-3-319-67337-0 , Springer (2018), 102 pages
2. J. Hladik, **M. Girtan**, H. Adam, J. L. Guignard, et al. *Les énergies renouvelables aujourd'hui et demain*, Ellipses, ISBN-10: 2729864482, ISBN-13: 978-2729864484, (2011) 520 pages
3. Felicia Iacomi, Diana Mardare, **M. Girtan**, *FIZICĂ GENERALĂ - Lucrări de laborator. Întrebări. Probleme* Editura Gama, Iasi, 1997, ISBN 973-97937-9-7

INVITED TALKS (36)

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Conferences and webinars

1. M.Girtan, Next materials for future optoelectronics and photonics devices, ROCAM Invited talk, 15-18 July 2024 Bucharest Romania
2. M.Girtan, On the Properties of Perovskites Thin Films for Solar Cells, 26th Congress of SCTM 20-23 September 2023, Ohrid, Macedonia

3. M.Girtan, On the physical properties of MAPbI₃ perovskites thin films as highly applicative materials for the fourth generation solar cells, Modtech 14-17 June 2023 (web) Bucharest Romania
4. M.Girtan, Next materials for future photonics devices , EMRS, 2nd June 2023, Symp. O, Strasbourg, France
5. M. Girtan, La crise énergétique les solutions du futur, Centre, Innofeit, Faculté d'électrotechnique et des technologies d'information, Skopje, 6 December 2022
6. M.Girtan, Oxide/Metal/Oxide as transparent electrodes for perovskite and organic solar cells, Invited speaker TCM-TOEO, 8th International Symposium on Transparent Conductive Materials & 12th International Symposium on Transparent Oxide and Related Materials for Electronics and Optics , 16-21 October 2022, Hersonissos, Crete
7. M.Girtan, From Electronics and Photonics Towards Plasmonics and Future Solar Energy Devices, Invited keynote lecture ECAI-2022, IEEE, 14th International conference on Electronics, Computers and Artificial Intelligence, 30 June 2022, Ploiesti
8. M.Girtan, On the Physical Properties of CH₃NH₃PbI₃ Thin Films for Solar Energy Conversion Systems (Web), Invited talk, 3rd June 2021, EMRS , Strasbourg
9. M.Girtan, Understanding the energy concept and the perspectives for future solar energy devices (Web), Invited talk, 24 March 2021, Pristina, Kosovo
10. M.Girtan, Les energies vertes en France et en Europe (Web), 27 November 2020, Skopje, Macedonia
11. M.Girtan, Plenary talk, Invited lecture, The 8th International Conference on Modern Manufacturing Technologies in Industrial Engineering, Modtech, Eforie Nord 23-27 June 2020
12. M. Girtan, Electronics and photonics towards new solar energy devices, 26 February 2020, Utrecht, Netherlands
13. M. Girtan, *Future solar energy devices*, 20-th International Conference-School Advanced Materials and Technologies, August 27-31, 2018, Palanga, Lithuania, Invited lecture, Chair person
14. M. Girtan, L. Hrostea, B. Negulescu, *Ellipsometric modelling in the optimization of thin films fabrication processes*, Invited lecture, Training School 6-8 February 2018, Sofia, Invited lecture
15. M. Girtan , B. Negulescu, L. Hrostea , M. Boclinca , *Reduction and replacement of critical raw material used for transparent electrodes in flat screens, transparent electronics and solar cells*, EMRS-fall Meeting, 18-21 September 2017, Warsaw, Invited lecture
16. M. Girtan, *Solar cells and photonic devices*, Invited talk, ROCAM, 11-14 July, 2017, Bucharest, Invited lecture, Chair person
17. M. Girtan, *Electronics and photonics towards plasmonics and new solar energy devices*, PAMS-2, Cluj-Napoca, 8-14 Sept. 2016, Invited lecture

18. M. Girtan, *Electronics and photonics towards plasmonics and new solar energy devices*, International Year of Light 2015, 70th anniversary of UNESCO, "Lights of the World" Bucharest, 30 Oct. - 1 Nov. 2015, Invited lecture, Chair person
19. M. Girtan, *On the Electrical and Photoelectrical Properties of Conducting Polymers for Organic Solar Cells*, International Summer School on Materials for Energy Conversion, 6-11 July, 2015, Bucharest, Romania, Invited lectures
20. M. Girtan, *Trends in the new generation solar cells research*, ROCAM, 7-10 July 2015, Bucharest, Romania, Invited lecture, Chair person
21. M. Girtan *Electronics and Photonics: Two Sciences in the Benefit of Solar Energy Conversion* Advanced Workshop on Solar Energy Conversion, 21-23 May, 2012, Bucharest Invited lecture
22. M. Girtan *The Role and the Properties of Organic and Inorganic Transparent Conducting Films for Organic and Hybrid Solar Cells* 10th International Symposium on Advanced Organic Photonics, 1st International Symposium in Super-hybrid Materials, 28thSept. - 2nd Oct. 2010, Tokyo, Japan, Invited lecture, Chair person
23. M. Girtan *Transparent conductors for organic electronics applications* Japan-Europe Joint Workshop -The 9th International Symposium on Advanced Organic Photonic, ISAOP-9, 3rd and 4th Sept. 2009, Bunratty, Shannon, Ireland, Invited lecture

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Seminars

24. M.Girtan, *Manufactured technologies for solar cells fabrication: from first to third generation* , Al. Cuza University, Iasi, 8 December 2021
25. M. Girtan, *Ellipsometric modelling as a solution to reduce the experimental tests and the waste of materials in the optimization of multilayers thin films fabrication process*, 08/11/2018, Invited seminar, Dublin Institute of Technology
26. M. Girtan, *Solar energy and photonics devices*, Invited seminar, 22/08/2018, Uppsala University
27. M. Girtan, *Solar energy conversion systems*, Invited seminar, 14/06/2018, Dublin Institute of Technology
28. M. Girtan, *Future solar energy devices*, Invited seminar, 11/06/2018, Trinity College Dublin
29. M. Girtan, *Solar cells and photonics devices*, Invited seminar, 24/05/2018, INSA – Rennes
30. M. Girtan, *Trends on the new generation solar cells research*, Invited seminar, 19/12/2016, Vilnius University
31. M. Girtan, *On the polymer : fullerene organic solar cells*, 05/03/2014, Physics Department, University College Dublin
32. M. Girtan, *On the electrical and photo-electrical properties of some conducting polymers used in organic solar cells*, 12/07/2013, Department of Chemistry, University of Athens

33. M. Girtan, *On the stability of the electrical and photoelectrical properties of P3HT:PCBM solar cells thin films components*, 29/10/2012, National Hellenic Research Foundation, Athens
34. M. Girtan, *Transparent and conducting thin films with applications in organic solar cells*, 30/07/2010, National Institute of Materials Physics, Bucharest, Romania
35. M. Girtan, *Le rôle des oxydes transparents et conducteurs dans les cellules solaires de troisième génération*, 17/06/2010, XLIM, Limoges
36. M. Girtan, *Films minces pour électronique plastique. Dispositifs*, 27/04/2010, Institut Charles Sadron, Strasbourg

INTERNATIONAL CONFERENCES - (153)

1. M.Girtan, Trends in the research of solar cells of new generation, International Day of Light, Webinar Eu Green Alliance, 16 mai 2024
2. 201. V. Sprincean, L. Leontie, O. Lupan, R. Adelung,, M. Girtan, S. Gurlui, A. Carlescu, M. Caraman, Preparation and optical properties of β -Ga₂O₃/ZnO nanocomposite as a photocatalyst for the efficient degradation of organic compounds under the action of ultraviolet radiation EMRS, 2nd June 2023, Symp. C, Strasbourg, France (p)
3. M.Girtan, R. Mallet, M.Socol, A.Sanculescu, *Organic semiconductors thin films as alternative transparent conductors*, (Web), 1st June 2021, EMRS, Symp. C., Strasbourg
4. M.Girtan, R. Mallet, *On the photoelectrical properties of MAIPbI₂ perovskites thin films*, NanoGe, 4-8 November 2019, Berlin (p)
5. M. Girtan, *Technologies for future solar energy devices*, ModTech,19-22 June 2019, Iasi, (o)
6. M. Girtan, L. Hrostea, I. Leontie, *Ellipsometric modelling as a solution to the optimization of thin films devices fabrication process*, ModTech, 19-22 June, 2019 Iasi (o)
7. J. Walshe, G. Amarandei, J. Doran, M. Girtan, *Development of Plasmonic Enhanced Luminescent down Shifting (pLDS) and 'Bragg-Type' Layers for Photovoltaic Applications*, 20th International Conference-School Advanced Materials and Technologies, Aug. 27-31, 2018, Palanga, Lithuania (p)
8. M. Girtan, *Future Solar Energy Devices*, SPIE Photonics Europe, 22-26 April 2018, Strasbourg (Spie Digital library oral video presentation available) (o)
9. M. Girtan, *Electronics and photonics towards plasmonics and new solar energy devices*, SPIE Photonics Europe, 22-26 April 2018, Strasbourg (p)
10. M. Girtan, *Abundance and scarcity of elements on earth and universe*, EMRS-fall Meeting, 18-21 September 2017, Warsaw (p)
11. L. Hrostea, M.L. Grilli, M. Girtan, *Indium free Oxide/Metal/Oxide for solar cell applications*, EMRS-fall Meeting, 18-21 September 2017, Warsaw (p)

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13. M. Boclinca, L. Hrostea, B. Negulescu, A. Stanculescu, L. Leontie, M. Girtan, *On the physical properties of TiO₂/Au/TiO₂ multilayer films structures*, ICPAM, 8-14 Sept. 2016 Cluj-Napoca, Romania (p)
14. L. Hrostea, M. Boclinca, M. Socol, R. Mallet, L. Leontie, M. Girtan, *Optical, structural and morphological properties of Bi₂O₃/Au/Bi₂O₃ multilayer films structures*, ICPAM, 8-14 Sept. 2016 Cluj-Napoca, Romania (p)
15. M. Girtan, *The influence of metallic cathode geometry on the performances of organic solar cells*, EMRS, 2-6 mai, 2016, Lille, France, Symp. T (p)
16. J. Merigeon, O. Maalej, B. Boulard, M. Girtan, *Rare Earth Down Convertor Glasses for Solar Cells Encapsulation*, EMRS, 2-6 mai, 2016, Lille, France, Symp. T (p)
17. M. Girtan, G. Mousdis, et al, *Studies of the morphological and optical properties of CH₃NH₃PbI₃ nanowires prepared by spin-coating*, EMRS, 2-6 mai, 2016, Lille, France, Symp. T (p)
18. M. Girtan, A. Stanculescu, M. Socol, M. Kompitsas, *Indium free transparent electrodes for solar cells and plastic electronics*, EMRS, 2-6 mai, 2016, Lille, France, Symp. E (o)
19. Saidi Wassila, El Maaoui Mohamed, Mohammed S. Rasheed, M. Girtan, *Sol-gel synthesis, structural and optical properties of boron-doped TiO₂ thin films deposited on ITO glass substrates*, ROCAM, 7-10 July 2015, Bucharest, Romania (p)
20. M. Girtan, *Electronics and Photonics Towards Plasmonics and New Solar Energy Devices Nano2014*, 12th-18th August 2014, Moscow, Russia (o)
21. M. Girtan, *Electrical resistivity dependences on temperature and solar irradiation flow of some conducting polymers used in organic solar cells*, Nano2014, 12th-18th Aug. 2014 Moscow, Russia (o)
22. M. Girtan, *The influence of the distance between irradiation area and cathode position on the performances of P3HT : PCBM and PCDTBT : PCBM solar cells* TCM 2014, 12-17 Oct. 2014 (p)
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24. J. Merigeon, R. Mallet, S. Iftimie, M. Girtan *Studies and optimizations of encapsulation antireflection glasses for silicon solar cells panels*, TCM 2014, 12-17 October 2014 (p)
25. M. Girtan, *Electronics and Photonics: Two Sciences in the Benefit of Solar Energy Conversion*, Solar Energy for World Peace, Istanbul, Turkey, 17-19 August 2013 (o)
26. M. Girtan, *On the stability of the electrical and photoelectrical properties of P3HT:PCBM blend thin films* Solar Energy for World Peace, Istanbul, Turkey, 17-19 August 2013 (p)

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28. M. Girtan, *Electronics and Photonics: Two Sciences in the Benefit of Solar Energy Conversion*, ISFOE 6th, 8-11 July 2013 Thessaloniki (o)
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32. M. Girtan, *On the electrical properties stability of transparent conducting electrodes for third generation solar cells*, EMRS, 27-31, May, 2013, Strasbourg, France, Symp. O (o)
33. M. Girtan, *New photoelectrical properties of P3HT:PCBM blend thin films*, EMRS, 27-31, May, 2013, Strasbourg, France, Symp. B (p)
34. M. Girtan, *Electronics and Photonics: Two Sciences in the Benefit of Solar Energy Conversion*, 4th International Symposium on Transparent Conductive Materials, 21-26 October, 2012, Crete (o)
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36. M. Girtan, *New Photoelectrical properties of P3HT:PCBM blend thin films*, The 7th International Conference on Advanced Materials, ROCAM, 28-31 August 2012 (o)
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39. I.Vaiciulis, M. Girtan, A. Stanculescu *On the Surface Properties of Titanium Oxide Thin Films Deposited by Spin Coating and Spray Pyrolysis* The 7th International Conference on Advanced Materials, ROCAM, 28-31 August 2012 (p)
40. M. Girtan *Comparison of ITO/metal/ITO and ZnO/metal/ZnO transparent electrodes for plastic solar cells*, EMRS, 14-18, May, 2012, Strasbourg, France (p)
41. M. Girtan, A. Stanculescu, O. Rasoga, B. Pattier, M. Sylla, A. Monteil *Sol-Gel Deposited In: ZnO Films for Solar Cells Applications* ROCAM, 25-28, August 2009, Brasov, Romania (o)

42. M. Girtan, M. Kompitsas, R. Mallet, I. Fasaki *On physical Properties of Undoped, Al and In Doped ZnO Films Deposited on PET Substrates by PLD* 2nd International Symposium on Flexible Organic Electronics (IS-FOE09), 8-10 July 2009, Porto Carras, Greece (o)
43. M. Girtan, A.Vlad, D. Mardare, A. Stanculescu *Pulsed laser deposited Aluminium Doped zinc Oxide Films on PET Substrates*, European Materials Research Society - EMRS, 8-12 June, 2009 Strasbourg, France, Symp F (p)
44. D. Mardare, F. Iacomi, N. Cornei, M. Girtan, D. Luca, *Undoped and Cr-Doped TiO₂ Thin Films Obtained by Spray Pyrolysis* European Materials Research Society - EMRS, 8-12 June, 2009 Strasbourg, France, Symp H (p)
45. A. Stanculescu, M. Socol, O. Rasoga, F. Stanculescu, G. Socol, M. Nistor, M. Girtan, M. Sylla, A-M. Albu *Transport Properties in Organic heterostructures for Transparent Optoelectronics* European Materials Research Society - EMRS, 8-12 June, 2009 Strasbourg, France, Symp F
46. M. Girtan, G.G.Rusu, Mihaela Rusu *Thermal stability of poly(3,4-ethylenedioxythiophene)-polystyrenesulfonic acid electrical properties*, Nano SEA 2008, Second International Conference on Nanostructures Self-Assembly, Rome 7-10 July, Italy (p)
47. M. Girtan, *Structural and Optical properties of In doped ZnO thin films*, IS-TCO, 2nd International Symposium on Transparent Conductive Oxides, 22-26 October 2008, Crete, Greece (p)
48. M. Girtan, G.G.Rusu, *Role of ITO and PEDOT:PSS in Stability / Degradation of Polymer: Fullerene BHJ Solar Cells* ICPAM-8, June 4-7, 2008, Iasi, Romania (p)
49. M. Girtan, S. Dabos-Seignon *Properties of thermal vacuum deposited pentacene films*, E-MRS 2007 Spring Meeting, Strasbourg, May 28-June 1st, 2007 (p)
50. M. Girtan, Sylvie Dabos – Seignon, J.M. Nunzi *On the Physical Properties of Pentacene Thin Films* 6th Iberian Vacuum Meeting IVM-6, June 26-28, 2006, Salamanca, Spain (p)
51. G. G. Rusu, M.Rusu, M. Girtan, *Optical Characterization of Vacuum Evaporated CdZnTe Thin Films Deposited by Stacked Layer Method* 6th Iberian Vacuum Meeting IVM-6, June 26-28, 2006, Salamanca, Spain (p)
52. M. Girtan, P.O. Logerais, Anne Bouteville, S. Gurlui, G.G. Rusu, *Thermal stability of electrical and optical properties of transparent conducting substrates for solar cells* 7th International Balkan Workshop - Applied Physics, July 5-7th, 2006, Constanta, Romania (p)
53. M. Girtan, A.Bouteville, G.G.Rusu, Mihaela Rusu, *F Doped SnO₂ Thin Films Properties* 6th International Balkan WorkShop on Applied Physics Romania, Constanta, July 5-7 2005 (p)
54. M. Girtan, P.O. Logerais, L. Avril, A. Bouteville, F. Gonzatti *Thermal profile evaluation of a silicon wafer in a rapid thermal chemical vapour deposition apparatus* ICPAM-7, International Conference, June, 10-12, 2004, Iasi, Romania (p)
55. M. Girtan, *Investigations on the optical constants and Urbach tail parameter of indium oxide thin films prepared by ultrasonic spray pyrolysis* EMRS, 2004, May 24-28, Strasbourg, D/PI.19 (p)
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57. M. Rusu, A. Stanciu, M. Vasiloschi, G.G. Rusu, M. Girtan, G.I. Rusu, *On the electronic transport and optical properties of some new poly(azomethine) urethanes in thin films* E-MRS 2004, Spring Meeting, May 24-28, 2004, Strasbourg, France, G/PII04 (p)
58. G.G.Rusu, M. Girtan, M.Rusu, N.Apetroaie, *Effect of the heat treatment on the structure and optical properties of cu-doped CdTe thin films* Workshop on Fundamental and Applied Research in Physics, Iasi, Oct. 30th 2004 (p)
59. M. Girtan, G.I. Rusu, *Influence of deposition conditions on the electrical and optical properties of SnO₂ films prepared by pyrolytic decomposition method* Balkan Physical Union, BPU-5, August 25-29, 2003, Vrnjacka Banja, Serbia & Montenegro (p)
60. M. Girtan, G.I. Rusu *Characterisation of SnO₂ and F doped SnO₂ thin films prepared by an ultrasonic CVD process* ROCAM, 15-18, Sept. 2003, Romania (p)
61. M. Girtan, *The wetting properties of indium oxide thin films* Solid/Fluid Interfaces, 29 March-3 April 2003, St. Feliu de Guixols, Spain (p)
62. M. Girtan, G. Folcher, A. Ionel, G.I. Rusu, *Structure, optical and electrical properties of SnO₂ and SnO₂:F spray pyrolysis deposited thin films* Solid/Fluid Interfaces, 29 March-3 April 2003, St. Feliu de Guixols, Spain (p)
63. M. Girtan, A. Pui, E. Indrea, M. Tasca, N. Apetroaie, *Investigations on surface free energy of indium oxide thin films*, MATEHN'02 Cluj Napoca 12-14 sept., 2002 (p)
64. M. Girtan, G.I. Rusu, *The influence of deposition parameters on the electrical properties of indium oxide thin films prepared by an ultrasonic spray CVD process*, European Physical Society, EPS-12, Budapest, 26-30 August 2002, P1-74-C, p. 203 (p)
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