

LISTĂ DE PUBLICAȚII, CERCETĂRI ȘI PROIECTE

I. Lista lucrări publicate în reviste cotate ISI

1. **N. Tigau**, Rusu, G. I., Gheorghieș, C., *On the structural and optical properties of antimony trisulfide thin films*; Journal of Optoelectronics and Advanced Materials; Vol.4. No.4, 2002, pp. 943–948, ISSN 1454-4164. http://joam.inoe.ro/arhiva/pdf4_4/Tigau.pdf
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4. **N. Tigau**, Ciupina, V., Prodan, G., Rusu, G. I., Gheorghieș, C., E. Vasile, *Structure and optical properties of thermally vacuum evaporated Sb₂O₃ thin films*; Journal of Optoelectronics and Advanced Materials, Vol. 6, No. 2, 2004, pp. 449 – 457, ISSN 1454-4164. http://joam.inoe.ro/arhiva/pdf6_2/Tigau.pdf
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38. Ana Violeta Filip, Bogdan Alexandru Sava, Rares Victor Medianu, Lucica Boroica, Marius Catalin Dinca, Rovena Pascu, **Nicolae Tigau**, Andreea, Andrei, Antoniu Moldovan, Marius Dumitru, Mihai Oane, Mihai Eftimie, *Ultrathin films of silver by Magnetron Sputtering*, Inorganics, 2022

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II. Lista lucrări publicate în reviste indexate ISI

1. **N. Tigau**, Simona Condurache-Bota and Romana Drasovean, *Investigation of optical properties of Sb_2S_3 thin films*, *Journal of Science and Arts*, Year 10, No. 2 (13), pp. 361-364, (2010).
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3. S. Condurache-Bota, **N. Tigau**, R. Drasovean, *Explicit application of Swanepoel's method for analysis of Sb_2O_3 thin films*, *Journal of Science and Arts*, Year 10, No. 2 (13), pp. 335-340, (2010).
4. Antoaneta Ene, I.V. Popescu, Claudia Stih, Anca Gheboianu, Cristiana Radulescu, **N. Tigau**, Steluta Gosav, *Assessment of river water quality in Central and Eastern parts of Romania using atomic and optical methods*, *Journal of Science and Arts*, Year 10, No. 1(12), pp. 113-118, (2010).
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10. Simona Condurache-Bota, **Nicolae Tigau**, Catalin Constantinescu, *Effect of substrate temperature on bismuth oxide thin films grown by pulsed laser deposition*, *SN Applied Sciences* (2020) 2:417, <https://doi.org/10.1007/s42452-020-2217-2>

III. Teza de doctorat

Titlul tezei de doctorat: *Contribuții la studiul proprietăților electrice și optice ale unor semiconductori binari în straturi subțiri*

**Domeniul Fizică, Universitatea Alexandru Ioan Cuza din Iași, Facultatea de Fizică, 2004
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IV. Cărți sau capitole în cărți

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- N. Tiğău**, C. Gheorghieș, *Fizica Corpului Solid. Aplicații practice*, Editura Ars Docendi, București, 2003, ISBN 973-558-098-5.
- G. Murariu, D. Toma, **N. Tiğău**, *Modelarea fenomenelor fizice. Îndrumar de laborator*, Editura Ars Docendi, București, 2005, ISBN 973-558-210-4.
- E. Dănilă, **N. Tiğău**, *Lucrări de laborator. Electricitate și Magnetism*, Editura Fundației Universitare "Dunărea de Jos" Galați, Galați, 2005, ISBN 973-627-244-3.
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- N. Tiğău**, *Elemente de fizică generală și fizica semiconductorilor*, Editura Ars Docendi, București, 2006, ISBN (10) 973-558-267-8, ISBN (13) 978-973-558-267-8.
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- A. Ene, **N. Tiğău**, G. Murariu, S. Condurache-Bota, *Teste grila de fizica pentru admitere in invatamantul superior*, Editura Galati University Press, 2012, ISBN 978-606-8348-49-0.

V. Volume ale conferințelor editate:

- Mirela Praisler, Antoaneta Ene, **Nicolae Tiğau**, Book of Abstracts - National Conference on Applied Physics, Galati, June 3-4, 2005, Editura Fundatiei Universitare Dunarea de Jos din Galati, ISBN 973-627-228-1, 38 pag.
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- Antoaneta Ene, Romana Drașovean, **Nicolae Tiğau**, Emilian Dănilă, Constantin Gheorghieș, Gabriel Murariu, Alexandrina Nat, Steluța Gosav, Proceedings Supplement of the Third National Conference on Applied Physics, Annals of the „Dunărea de Jos” University of Galati, Fascicle II, Mathematics, Physics, Chemistry, Informatics, Year XXV (XXX) 2007, Editura Fundatiei Universitare Dunarea de Jos din Galati, ISBN 978-973-627-378-0, 300 pag. <http://www.editura.ugal.ro/Anul2007/Anul2007p5.htm> (WorldCat - OCLC Number: 255024890).
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VI Lucrări publicate în reviste indexate BDI

- N. Tiğau**, Rusu, G. I., Ciupina, V., Prodan, G., Vasile, E., *Influence of substrate temperature on the structural and optical properties of Sb_2S_3 thin films*, **Romanian Journal of Physics**, Vol. 10, No. 7-8, 2005, pp. 859-868, ISSN 1221-146X. (Indexata ISI începînd cu anul 2008). http://www.nipne.ro/rjp/2005_50_7-8/0859_0869.pdf
- N. Tiğau**, *Preparation and characterization of Sb_2O_3 thin films*; **Romanian Journal of Physics**; Vol. 11, No. 5-6, 2006, pp. 609-614, ISSN 1221-146X. (Indexata ISI începînd cu anul 2008). http://www.nipne.ro/rjp/2006_51_5-6/0641_0648.pdf
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5. **N. Tigau**, *Obținerea și caracterizarea straturilor subțiri de Sb₂S₃* **Buletinul AGIR**, Anul XIII, nr. 3, 2008, pag. 41-44, ISSN 2247-3548. International Data Bases: Index Copernicus International., Academic Keys, [getCITED](#)
6. P. Hagioglu, C. Gheorghies, A.M. Cantaragiu, R. Boiciuc, **N. Tigau**, *Corrosion Behaviour of Tombac Used in Cult Objects Manufacturing*, **The annals of the University „Dunarea de Jos” of Galati, Fascicle IX. Metallurgy and Materials Sciences** N^o. 2, 2009, p. 162., ISSN 1453 – 083X. International Data Bases: CSA, EBSCO, COPERNICUS
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41. Aurel Tăbăcaru, Viorica Mușat, **Nicolae Tigau**, *Novel hybrid zinc oxide nanoparticles with tuned optical properties through organosilane surface modification*, Section 3. Thin films and nanostructures of functional materials, The 8th International Conference on Advanced Materials, ROCAM 2015, 7-10 July 2015, Bucharest, Romania.
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 47. Simona Condurache-Bota, **Nicolae Tigau**, **The influence of the oxidation degree of bismuth oxide thin films on their optical properties**, International Conference of Physical Chemistry – ROMPHYSICHEM 16, 21 –23 sept. 2016, Galati, Romania, S5- pp. 103.
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 49. **Nicolae TIGAU**, Simona CONDURACHE-BOTA, **THE EFFECT OF ANNEALING ON THE STRUCTURAL AND OPTICAL PROPERTIES OF ZnSe THIN FILMS**, The 17th International Balkan Workshop on Applied Physics, **IBWAP 2017 (11-14, July, 2017), Constanta, Romania, S1-Materials Physics, S1 P10**
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 52. **Nicolae TIGAU**, Simona CONDURACHE-BOTA, Gabriel Prodan **SUBSTRATE TEMPERATURE EFFECT ON THE STRUCTURAL AND OPTICAL PROPERTIES OF TIN OXIDE THIN FILMS**, The 18th International Balkan Workshop on Applied Physics, **IBWAP 2018 (10-13, July, 2018), Constanta, Romania, S1-Materials Physics, S1 P5**
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3. Lucrări prezentate la Conferințe, Congrese, și Workshopuri Naționale (rezumate, invitate, prezentări orale, postere)

1. D. Toma, G. I. Rusu, **N. Tigau**, *Electrical properties of Sb₂O₃ polycrystalline thin films*, Al VI-lea colocviu național de fizica și tehnologia materialelor cristaline și amorphe FTMCA-6, 8-9 Iunie 2000 Iași, pp. 79.
2. **N. Tigau**, G. I. Rusu, D. Toma, *Influența tratamentului termic asupra conducției electrice în structuri M- Sb₂O₃ -M de tip sandwich*, National Physics Conference CNF 2001, 18-20 Oct. 2001 Iasi, pp. 128.
3. **N. Tigau**, V. Ciupină, G. Prodan, G.I. Rusu, C. Gheorghieș, E. Vasile, *The microstructure and the morphology of Sb₂O₃ thin films deposited on glass substrates*, Workshop on fundamental and Applied Research in Physics, “Al. I. Cuza” University of Iași, 1 Nov. 2003 Iasi, pp. 57.
4. G. Murariu, C. Dariescu, **N. Tigau**, *Klein-Gordon field equation and computer algebra*, National Conference of Applied Physics, 4 Dec. 2004 Iași, pp. 8.
5. G. Murariu, D. Toma, L. Moraru, **N. Tigau**, *Heat transfer simulation applications*, Conferința Națională de Fizică, CNF-2005, 13-17 Sept. 2005 București, pp. 27.
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7. C. Gheorghieș, I. Crudu, I. I. Ștefănescu, L. Palaghian, V. Mușat, L. Gheorghieș, **N. Tigau**, N. Cănanău, S. Măcuță, V. Păunoiu, D. Scarpete, M. Simionov, D. Nicoară, M. Modiga, M. Hapenciuc, L. Deleanu, I. Bârsan, G. Andrei, C. Maier, A. Epureanu, G. Fetecău, L. Moraru, A. Doniga, P. Alexandru, A. Ivănescu, G. Cârâc, L. Benea, D. Toma, M. Thompson, C. Spânu, C. Fetecău, S. Levcovici, S. Ciortan, O. Mitoșeriu, D. Dima, O. Dima, S. Bota-Condurache, N. Diaconu, F. Stan, M. Râpă, S. Boiciuc, *Analysis of the superficial layer of materials by X-rays diffraction method*, 3th National Conference of Applied Physics, 2007 Galați, pp. 17.
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16. Simona Condurache-Bota, Cătălin Goldner Constantinescu, Mirela Praisler, **Nicolae Tigău**, Gabriel Murariu, *Kramers-Kronig method applied for thin films of bismuth oxide prepared by PLD*, Scientific Conference of Doctoral Schools from UDJ GALATI Second Edition, CSSD-UDJG, 2014 - Section 3: Functional Materials and Nanotechnologies, PP. 3.2, pp. 87.
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19. **V. Musat, A.Tabacaru, M. Ibanescu Busila, N. Tigau**, *Hybrid ZnO-Based nanostructured materials with photoluminescent and antimicrobial properties*, **A 14-a editie a Seminarului National de Nanostiinta si Nanotehnologie (SNN 2015)**, 26 martie 2015 Biblioteca Academiei Romane, Bucuresti.
20. Munitzer Purica, Viorica Musat, Florin Comanescu, **Nicolae Tigau**, *Micro Raman caracterisation of semiconductive Al, Co and Mn-doped ZnO 1D and 2D nanostructured films grown by hydrothermal method*, Scientific Conference of Doctoral Schools CSSD-UDJG 2016, Fourth Edition, Galati, 2nd – 3rd of June 2016, Section 3 Functional & Nanotechnologies, IL. 3.1.
21. Viorica Musat, Ana Filip, **Nicolae Tigau**, Laurentiu Frangu, Ionel Petrea, *ITO/Cu:ZnO Nanostructured Thin Solid Films for Transparent Electronics*, Scientific Conference of Doctoral Schools CSSD-UDJG 2016, Fourth Edition, Galati, 2nd – 3rd of June 2016, Section 3 Functional & Nanotechnologies, PP. 3.2.
22. Elena Emanuela Herbei, Cernat, Nicolae Petrisor, **Nicolae Tigau**, Alina Cantaragiu, Marian Neacsu, Viorica Musat, *Ferrite oxide based hybrid nanostructured used for waste water treatment*, Scientific Conference of Doctoral Schools CSSD-UDJG 2016, Fourth Edition, Galati, 2nd – 3rd of June 2016, Section 3 Functional & Nanotechnologies, PP. 3.3.
23. **Nicolae Tigău**, *Nanotehnologia și Medicina, Conferința științifică cu participarea elevilor: „Fizica medicală: simbioză între Fizică, Medicină și Mediu*, 27 Feb. 2019, Universitatea „Dunarea de Jos” din Galati, Romania.

IX. PROIECTE DE CERCETARE-DEZVOLTARE-INOVARE

Proiect naționale – Responsabil proiect

1. **Grant excelența CEE, nr.89/2006, Cod MEC 1930**, *Prepararea și caracterizarea unor straturi subțiri semiconductoare nanostructurate utilizate la confecționarea modulelor fotovoltaice (PRECASS)*, (2006-2008). Aria tematica - Nanostiinte, Nanotehnologii. Platforma tehnologica-Materiale si tehnologii avansate, Director: Prof.dr. Gheorghe I. Rusu - Universitatea „Alexandru Ioan Cuza” Iasi. **Responsabil Partener 2-Tigau Nicolae** - Universitatea „Dunarea de Jos” din Galati. Finantat de ANCS, valoare totală contractată 1.500.000 RON (UDJG - 200.000 RON)

IX. Proiecte internaționale – cercetător

1. **Program european FP7-NMP**, *Printable Organic-Inorganic Transparent Semiconductor Devices (POINTS)*, Subprogramme Area: Organic-inorganic hybrids for electronics and photonics, Project Reference:263042, Programme type: Seventh Framework Programme” (2011-2014). Coordinator: TEKNOLOGIAN TUTKIMUSKESKUS VTT, Finlanda, Coordonator Romania Prof. dr. Viorica Musat - Universitatea „Dunarea de Jos” din Galati, valoare totala – 1.535.630 RON, contributie EU 3.247.950 EURO.
2. **Proiect MNT-ERA.NET, Grant 2NMT 7-029/2010**, Transnational european Project, tip: Parteneriate in domenii prioritare, *Multifunctional zinc oxide-based nanostructures: from materials to a new generation of devices – MULTINANOWIRES* (2010-2012). Coordinator: CEMIMAT/I3N, FCT-UNL, Portugal, Director partener (UDJG) - Prof. dr. Viorica Musat, finantat in Romania de ANCS-valoare 474.000 RON.

Proiecte naționale – cercetător

1. **Contract nr. 3PS/02.11.2017**, Planul sectorial de Cercetare Dezvoltare al Ministerului Cercetării și Inovării, **Cercetări în sprijinul dezvoltării capacității de evaluare și atenuare a impactului schimbărilor climatice și a altor factori de stress asupra stării ecosistemelor forestiere și a culturilor viticole** (2017-2018), Coordonator Prof.dr. Gabriel MURARIU (UDJG).

2. **Programul: IDEI-Proiect de cercetare exploratorie**, Cod proiect: ID_519 „Dezvoltarea unui nou concept de nanostructurare a compozitelor polimerice hibride multifunctionale cu proprietati controlate” (2009-2011). Director Prof. dr. Gabriel Andrei (UDJG). Finantat de ANCS, valoare 925. 000 RON
3. **Proiect complex nr. 72-172/1.10.2008, PNCDI-2**; parteneriate; directia de cercetare 7, *Tehnici de inalta precizie si sensibilitate aplicate in retele de biomonitorizare a poluarii mediului cu factori poluanti din zonele de dezvoltare de sud, sud-est si centrala ale Romaniei* (TIPSARMER), (2008-2011). Director Prof. dr. Antoaneta Ene (UDJG). Finantat de ANCS, valoare 300.000 RON.
4. **Grant CNCISIS, tip A, cod CNCISIS 679/2007**, *Cercetări hidrodinamice și de rezistență structurala la navele destinate transportului intermodal*, (2007-2008). Director Prof. dr. Adrian Lungu. Finantat de ANCS, valoare 87 294 RON.
5. **Grant CNCISIS 680/2007**, Realizarea unei tehnologii de obținere a unor acoperiri nanostructurate de tip barieră termică și de coroziune (2007-2008), Director Prof. dr. Constantin Gheorghieș, Finantat de ANCS, valoare 88 364,45 RON
6. **Grant CNCISIS, tip A**, Tema 1, Cod CNCISIS 514/2006, *Dezvoltarea unei noi clase de compozite polimerice nanostructurate ușoare cu proprietăți electrice și magnetice pentru aplicații aero-spațiale*, (2006-2008). Director Prof. dr. Gabriel Andrei (UDJG). Finantat de ANCS, valoare 228 760 RON.
7. **Grant CNCISIS, tip A**, Tema 10, nr. 34234/1999, Cod CNCISIS 410, nr. 36943/2000, Cod CNCISIS 818 și nr. 34976/2001, Cod 317, *Difuzie acustică rezonantă multicanal. Aplicații la caracterizarea unor ținte necanonice și a absorbantilor*, (1999-2001). Director Conf. dr. Emilian Danila (UDJG). Finantat de ANCS, valoare 12.000 RON.
8. **Grant CNCISIS, tip C** (Cercetări majore), Finanțat de Banca Mondială; Cod CNCISIS 104/1997 *Studiul fenomenelor de transport și a proprietăților optice și fotoelectrice ale unor compuși semiconductori în straturi subțiri*, (1998-2002). Director Prof. dr. Gheorghe I. Rusu (UAIC), valoare 45.000 USD
9. **Grant CNCISIS, tip B** (Bază de Cercetare cu Utilizatori Multipli-BCUM), Finanțat de Banca Mondială, Cod CNCISIS 24/1997, *Laborator pentru investigarea proprietăților straturilor subțiri semiconductoare și magnetice*, (1998-2002). Director Prof. dr. Gheorghe I. Rusu (UAIC), valoare 8.000 USD
10. **Grant CNCISIS, tip D** (Master/doctorat), Finanțat de Banca Mondială, Cod CNCISIS 38/1997; *Procese fizice în straturi subțiri semiconductoare și magnetice*, (1998-2002). Director Prof. dr. Gheorghe I. Rusu (UAIC), valoare 45.000 USD

Proiecte POSDRU, POCU

1. **Proiect POCU-Axa prioritară 6-Educație și competențe urse pentru educația antreprenorială în rândul doctoranzilor și cercetătorilor postdoctorat Acronim–Be Antreprenor!**, cod proiect: **MySMIS 124539/2019**, Responsabil raportare tehnica P2- Universitatea „Dunărea de Jos” din Galați,
2. **Proiect POSDRU/156/1.2/G/138821-** Programul Operațional Sectorial pentru Dezvoltarea Resurselor Umane 2007 – 2013, Axa prioritară nr. 1 „Educația și formarea profesională în sprijinul creșterii economice și dezvoltării societății bazate pe cunoaștere”, Domeniul major de intervenție 1.2 „Calitate în învățământul superior”, Beneficiar: Universitatea POLITEHNICA din București, Titlul proiectului: Calitate, inovare, comunicare - instrumente eficiente utilizate pentru creșterea accesului și promovabilității în învățământul superior tehnic-Expert pe termen lung 2015.
3. **Proiect POSDRU TOP ACADEMIC 76822/2010** - Universitatea „Dunărea de Jos” Galați - *Calitatea si continuitatea formarii in cadrul ciclului de studii doctorale* - TOP ACADEMIC - Expert pe termen scurt 2011.

Data:

9.03.2024

Semnătura,

