

MEMORIU DE ACTIVITATE PROFESIONALĂ ȘI ȘTIINȚIFICĂ

DATE BIOGRAFICE

Nume: BURUIANĂ

Prenume: ANGEL-THEODOR

Data nașterii: 28.10.1994

EDUCAȚIE ȘI FORMARE PROFESIONALĂ

- 1) **2020 – prezent:** doctorand al Școlii Doctorale de Fizică, Facultatea de Fizică, Universitatea din București, specializarea Fizică Stării Condensate;
- 2) **2018 – 2020:** Facultatea de Fizică, Universitatea din București, Master în Fizica Materialelor Avansate și Nanostructuri
- 3) **2018 – 2020:** Facultatea de Fizică, Universitatea din București, Master în Fizica Medicală
- 4) **2014 – 2018:** Facultatea de Fizică, Universitatea din București, Licență în Fizică Tehnologică.

ACTIVITATE PROFESIONALĂ

- 1) **2023 – present:** Tester de software (QA), DB Global Technology, București
- 2) **2019 - 2023:** Asistent de Cercetare Științifică, Institutul Național de Cercetare-Dezvoltare pentru Fizica Materialelor, Măgurele

ACTIVITATE ȘTIINȚIFICĂ

a. LISTĂ DE LUCRĂRI ȘTIINȚIFICE

1. Simandan Iosif-Daniel, Sava Florinel, **Angel Theodor Buruiana**, Burducea Ion, Becherescu Nicu, Mihai Claudia, Velea Alin, Galca Aurelian-Catalin (2021) The Effect of the Deposition Method on the Structural and Optical Properties of ZnS Thin Films, Coatings 11, 1064. <https://doi.org/10.3390/coatings11091064>
2. Zaki Mohamed-Yassine, Sava Florinel, **Angel Theodor Buruiana**, Simandan Iosif-Daniel, Becherescu Nicu, Galca Aurelian-Catalin, Mihai Claudia, Velea Alin (2021) Synthesis and Characterization of Cu₂ZnSnS₄ Thin Films Obtained by Combined Magnetron Sputtering and Pulsed Laser Deposition, Nanomaterials 11, 2403. <https://doi.org/10.3390/nano11092403>
3. Simandan Iosif-Daniel, Sava Florinel, **Angel Theodor Buruiana**, Galca Aurelian-Catalin, Becherescu Nicu, Burducea Ion, Mihai Claudia, Velea Alin (2021) Influence of Deposition Method on the Structural and Optical Properties of Ge₂Sb₂Te₅, Materials 14, 3663. <https://doi.org/10.3390/ma14133663>
4. **Buruiana Angel-Theodor**, Sava Florinel, Iacob Nicușor, Matei Elena, Bocirnea Amelia Elena, Onea Melania, Galca Aurelian-Cătălin, Mihai Claudia, Velea Alin, Kuncser Victor (2021) Micrometer Sized Hexagonal Chromium Selenide Flakes for Cryogenic Temperature Sensors, Sensors 21, 8084. <https://doi.org/10.3390/s21238084>

5. Zaki Mohamed Yassine, Sava Florinel, Simandan Iosif-Daniel, **Angel Theodor Buruiana**, Mihai Claudia, Velea Alin, Galca Aurelian-Catalin (2022) Effect of the stacking order, annealing temperature and atmosphere on crystal phase and optical properties of Cu_2SnS_3 , *Scientific Reports* 12, 7958. <https://doi.org/10.1038/s41598-022-12045-3>
6. Zaki Mohamed Yassine, Sava Florinel, Simandan Iosif-Daniel, **Angel Theodor Buruiana**, Stavarache Ionel, Bocirnea Amelia Elena, Mihai Claudia, Velea Alin, Galca Aurelian-Catalin (2022) A Two-Step Magnetron Sputtering Approach for the Synthesis of $\text{Cu}_2\text{ZnSnS}_4$ Films from $\text{Cu}_2\text{SnS}_3/\text{ZnS}$ Stacks, *ACS Omega* 7, 23800–23814. <https://doi.org/10.1021/acsomega.2c02475>
7. **Buruiana Angel Theodor**, Bocirnea Amelia Elena, Kuncser Andrei Cristian, Tite Teddy, Matei Elena, Mihai Claudia, Zawadzka Natalia, Olkowska-Pucko Katarzyna, Kipczak Łukasz, Babiński Adam, Molas Maciej, Velea Alin, Galca Aurelian-Catalin (2022) Layered SnSe Nanoflakes with Anharmonic Phonon Properties and Memristive Characteristics, *Applied Surface Science* 599, 153983. <https://doi.org/10.1016/j.apsusc.2022.153983>
8. Velea Alin, Sava Florinel, Badica Petre, Burdusel Mihail, Mihai Claudia, Galca Aurelian-Catalin, Matei Elena, **Buruiana Angel Theodor**, El Khouja Outman, Calvez L. (2022) New Chalcogenide Glass-Ceramics Based on Ge-Zn-Se for IR Applications, *Materials* 15, 5002. <https://doi.org/10.3390/ma15145002>
9. Catana Diana-Stefania, Zaki Mohamed Yassine, Simandan Iosif-Daniel, **Angel-Theodor Buruiana**, Sava Florinel, Velea Alin (2023) Understanding the Effects of Post-Deposition Sequential Annealing on the Physical and Chemical Properties of $\text{Cu}_2\text{ZnSnSe}_4$ Thin Films, *Surfaces* 6, 466-479. <https://doi.org/10.3390/surfaces6040031>
10. Zaki Mohamed Yassine, Sava Florinel, Simandan Iosif-Daniel, **Buruiana Angel Theodor**, Bocirnea Amelia Elena, Stavarache Ionel, Velea Alin, Galca Aurelian-Catalin, Pintilie Lucian (2023) From non-stoichiometric CTSe to single phase and stoichiometric CZTSe films by annealing under Sn+Se atmosphere, *Ceramics International* 49, 33692–33702. <https://doi.org/10.1016/j.ceramint.2023.08.056>
11. Zaki Mohamed Yassine, Sava Florinel, Simandan Iosif-Daniel, **Buruiana Angel Theodor**, Mihai Claudia, Velea Alin, Galca Aurelian-Catalin (2023) Cu_2SnSe_3 phase formation from different metallic and binary chalcogenides stacks using magnetron sputtering, *Materials Science in Semiconductor Processing* 153, 107195. <https://doi.org/10.1016/j.mssp.2022.107195>
12. Catana Diana, Zaki Mohamed Yassine, **Buruiana Angel Theodor**, Sava Florinel, Simandan Iosif-Daniel, Velea Alin (2023) Formation and detection of secondary crystalline phases in Cu_2SnS_3 thin films for photovoltaic applications, *Romanian Reports in Physics* 75, 504.

<https://doi.org/10.59277/RomRepPhys.2023.75.504>

13. Secu M., Matei E., Secu C., Bartha C., **Buruiana Angel Theodor**, Rostas A.M., Popescu A.D., Boroneanț A., Băjenaru R. (2023) Multi-Analytical Characterization of the White Inlaid Decoration on the Prehistoric Pottery from Southern Romania, *Solid State Sciences* 140, 107193. <https://doi.org/10.1016/j.solidstatesciences.2023.107193>
14. Sava Florinel, Mihai Claudia, **Buruiana Angel Theodor**, Bocirnea Amelia Elena, Velea Alin (2024) Fabrication and Characterization of Fe-Doped SnSe Flakes Using Chemical Vapor Deposition, *Crystals* 14, 790. <https://doi.org/10.3390/cryst14090790>
15. Sava Florinel, Simandan Iosif-Daniel, **Buruiana Angel Theodor**, Bocirnea Amelia Elena, El Khouja Outman, Tite Teddy, Zaki Mohamed Yassine, Mihai Claudia, Velea Alin (2024) Synthesis of WS₂ Ultrathin Films by Magnetron Sputtering Followed by Sulfurization in a Confined Space, *Surfaces* 7, 108–119. <https://doi.org/10.3390/surfaces7010008>
16. Velea Alin, **Buruiana Angel Theodor**, Mihai Claudia, Matei Elena, Tite Teddy, Sava Florinel (2024) Abundant Catalytic Edge Sites in Few-Layer Horizontally Aligned MoS₂ Nanosheets Grown by Space-Confined Chemical Vapor Deposition, *Crystals* 14, 551. <https://doi.org/10.3390/cryst14060551>
17. **Buruiana Angel Theodor**, Bocirnea Amelia Elena, Sava Florinel, Matei Elena, Tite Teddy, Mariana Andreea, Simandan Iosif-Daniel, Galca Aurelian-Catalin, Velea Alin (2024) Two-Step Process for the Fabrication of Direct FLG\MoS₂ Heterostructures, *Materials Chemistry and Physics* 322, 129530. <https://doi.org/10.1016/j.matchemphys.2024.129530>
18. Mihai Claudia, Simandan Iosif-Daniel, Sava Florinel, **Buruiana Angel Theodor**, Bocirnea Amelia Elena, Tite Teddy, Zaki Mohamed Yassine, Velea Alin (2024) Synthesis of Wrinkled MoS₂ Thin Films Using a Two-Step Method Consisting of Magnetron Sputtering and Sulfurization in a Confined Space, *Sustainability* 16, 3819. <https://doi.org/10.3390/su16093819>
19. **Buruiana Angel Theodor**, Zaki Mohamed Yassine, Sava Florinel, Velea Alin et al. (2024) Efflorescent Compounds – Characterization and Interactions with Lithic Material. Insights from the Exterior Wall of the Episcopal Cathedral – Curtea de Argeș, *Romanian Reports in Physics* 76, 803. <https://doi.org/10.59277/RomRepPhys.2024.76.803>
20. **Buruiana Angel Theodor**, Mihai Claudia, Kuncser Victor, Velea Alin (2025) Advances in 2D Group IV Monochalcogenides: Synthesis, Properties, and Applications, *Materials* 18, 1530. <https://doi.org/10.3390/ma18071530>
21. Opriș Vasile, Velea Alin, Secu Mihai, Rostas Andreea-Maria, **Buruiana Angel Theodor**, Simion C-A, Matei Elena, Bartha Cristina et al. (2022) ‘Put Variety in White’: Multi-Analytical Investigation of the White Pigments Inlaid on Early Chalcolithic Pottery from

b. PARTICIPĂRI LA CONFERINȚE, SIMPOZIOANE, CURSURI

1. **Buruiană Angel Theodor**, *Layered SnSe nanoflakes with anharmonic phonon properties and memristive characteristics*, 9th “International Conference on Optical, Optoelectronic and Photonic Materials and Applications, Ghent, Belgium, 1 – 10 iulie 2022
2. **Buruiană Angel Theodor**, “*Optical and structural properties of GST-225*”, 12th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Torremolinos, Spain, 16 – 23 iulie 2022
3. Florinel Sava, **Angel-Theodor Buruiană**, Claudia Mihai, Amelia Elena Bocîrnea, Teddy Tite, Elena Matei, Iosif-Daniel Șimandan, Aurelian-Catalin Gâlcă, Alin Velea, *Advanced synthesis techniques of 2D materials for enhanced functional properties*, 10th International Conference on Advanced Materials, București, 15 – 18 Iulie 2024
4. Amelia Elena Bocîrnea, Irina Ion, Liviu Cristian Tanase, Mauricio Prieto, Lucas de Souza Caldas, Thomas Schmidt, Florin Sava, Alin Velea, **Angel Theodor Buruiană**, Aurelian Catalin Gâlcă, “*The effects of ultrahigh vacuum treatments on SnSe flakes transferred on naturally oxidized Si wafers*”, 10th International Conference on Advanced Materials, București, 15 – 18 Iulie 2024
5. Yassine Zaki, Florinel Sava, Daniel Simandan, A. T. Buruiana, Alin Velea, Aurelian Catalin Galca, Lucian Pintilie, “*Synthesis and characterization of stoichiometric and single-phase CZTS and CZTSe thin films via two-step magnetron sputtering of Cu₂SnS₃/ZnS and Cu₂SnSe₃/ZnSe stacks*” 1st International Workshop on Emerging Inorganic Chalcogenides Photovoltaics (RENEW-PV), Tallinn, Estonia, 13–18 Iunie 2023
6. Diana Catana, Yassine Zaki, Daniel Simandan, Angel Theodor Buruiana, Florinel Sava, Alin Velea, *Understanding the effects of post-deposition sequential annealing on the physical and chemical properties of Cu₂ZnSnSe₄ thin films*, The EPS Forum 2024, Berlin, Germany, 25– 27 Martie 2024.

c. BREVETE DE INVENȚIE

1. Sava Florinel, **Buruiană Angel Theodor**, Mihai Oana Claudia, Matei Elena, Teddy Tite, Velea Alin, Procedeu pentru producerea de materiale cristaline cvasi-bidimensionale cu cheltuieli de producție reduse, cerere brevet A/00333 din 29/06/2023 depusă la OSIM
2. **Buruiană Angel Theodor**, Bocîrnea Elena Amelia, Kuncșer Andrei, Teddy Tite, Matei Elena, Mihai Claudia, Gâlcă Aurelian Cătălin, Velea Alin, Memristor eficient energetic bazat pe plachete micrometrice ortorombice de seleniură de staniu și metoda de obținere, cerere brevet A/00776 din 28/11/2022 depusă la OSIM
3. **Buruiană Angel Theodor**, Sava Florinel, Iacob Nicușor, Matei Elena, Bocîrnea Elena Amelia, Oana Melania, Gâlcă Aurelian Cătălin, Mihai Claudia, Velea Alin, Kuncșer Victor, Senzor de temperaturi criogenice bazat pe plachetele micrometrice hexagonale de

seleniură de crom și meta de obținere, cerere brevet A/00729 din 03/12/2021 depusă la OSIM

4. **Buruiană Angel Theodor**, Sava Florinel, Matei Elena, Zgură Irina, Burdușel Mihai, Mihai Claudia, Velea Alin, Suprafețe acoperite cu nanoparticule metalice cu proprietăți hidrofobe și metodă simplă și curată pentru obținerea acestora, cerere brevet A/00631 din 12/10/2020 depusă la OSIM.

Semnătura

A handwritten signature in black ink, appearing to read 'Angel', written over a horizontal line.