



ANEXA 2b

STANDARDE MINIMALE PE DOMENII PENTRU FUNCȚII DE CERCETARE

Standarde minimale pentru funcția de **Cercetator științific III**, în cadrul **Departamentului interdisciplinar CERNESIM** conform **HS 35 din 22.11.2018** privind Metodologia de concurs pentru ocuparea posturilor de cercetare:

- 6 articole științifice publicate în extenso în reviste internaționale din care 3 autor principal în reviste cotate Web of Science cu factor de impact;
- Candidații care provin din cercetare trebuie să întrunească dublul cerințelor referitoare la activitatea științifică, activitate care trebuie să fie obligatoriu în profilul postului;
- Membru în echipa a 2 proiecte de cercetare câștigate prin competiție națională sau internațională

Activitatea științifică personală:

- 22 de lucrări publicate în reviste cotate Web of Science din care 11 ca autor principal
- Membru în echipa a 7 proiecte câștigate prin competiție națională

Lucrări publicate în reviste cotate ISI:

1. S. A. Irniciuc, G. Bulai, S. Gurlui, M. Agop, M., On the separation of particle flow during pulse laser deposition of heterogeneous materials - A multi-fractal approach, (2018) Powder Technology, 339, pp. 273-280;
2. S. Irniciuc, G. Bulai (autor corespondent), M. Agop, S. Gurlui, Influence of laser-produced plasma parameters on the deposition process: in situ space- and time-resolved optical emission spectroscopy and fractal modeling approach (2018) Applied Physics A: Materials Science and Processing, 124 (9), art. no. 615;
3. Cocean, I. Cocean, M. M. Cazacu, G. Bulai, F. Iacomì, S. Gurlui, Atmosphere self-cleaning under humidity conditions and influence of the snowflakes and artificial light interaction for water dissociation simulated by the means of COMSOL (2018) Applied Surface Science, 443, pp. 83-90;
4. G. Bulai, O. Rusu, M. M. Cazacu, F. Tudorache, B. Chazallon, C. Focsa, S. Gurlui, Structural, magnetic and humidity sensing properties of rare earth doped cobalt ferrite thin films synthesized by pulsed laser deposition (2018) Journal of Ovonic Research, 14 (2), pp. 119-128;
5. S. A. Irniciuc, S. Gurlui, G. Bulai, P. Nica, M. Agop, C. Focsa, Langmuir probe investigation of transient plasmas generated by femtosecond laser ablation of several metals: Influence of the target physical properties on the plume dynamics, Applied Surface Science, 417 (2017), pp. 108-118;
6. S. Irniciuc, R. Boidin, G. Bulai (autor corespondent), S. Gurlui, P. Nemec, V. Nazabal, C. Focsa, Laser ablation of $(\text{GeSe}_2)_{100-x}(\text{Sb}_2\text{Se}_3)_x$ chalcogenide glasses: Influence of the target composition on the plasma plume dynamics, Applied Surface Science, 418 (2017), pp. 594-600;
7. Doina Lutić, Diana Petrovski, Maria Ignat, Igor Cretescu, Georgiana Bulai, Mesoporous cerium-doped titania for the photocatalytic removal of persistent dyes, Catalysis Today, 306 (2018), pp. 300-309;
8. Caraman, L. Dmitroglou, I. Evtodiev, L. Leontie, D. Untila, S. Hamzaoui, M. Zerdali, O. Șușu, G. Bulai, S. Gurlui, Optical properties of ZnO thin films obtained by heat treatment of Zn thin films on amorphous SiO_2 substrates and single crystalline GaSe lamellas, Thin Solid Films, 617 (2016), pp.: 103-107;
9. E. V. Gafton, G. Bulai, O. F. Caltun, S. Cervera, S. Macé, M. Trassinelli, S. Steydl, D. Vernhet, Structural and magnetic properties of zinc ferrite thin films irradiated by 90 keV neon ions, Applied Surface Science, 379 (2016), pp.: 171-178;



10. N. Cimpoeșu, L. C. Trincă, G. Dascălu, S. Stanciu, S. O. Gurlui, D. Mareci, Electrochemical characterization of a new biodegradable FeMnSi alloy coated with hydroxyapatite-zirconia by PLD technique, *Journal of Chemistry* (2016), art. no. 9520972;
11. G. Bulai, I. Dumitru, M. Pinteala, C. Focsa, S. Gurlui, Magnetic nanoparticles generated by laser ablation in liquid, *Digest Journal of Nanomaterials and Biostructures*, 11 (2016), pp. 283-291;
12. C. Virlian, G. Bulai, O. F. Caltun, R. Hempelmann, A. Pui, Rare earth metals' influence on the heat generating capability of cobalt ferrite nanoparticles, *Ceramics International*, 42 (2016) pp. 11958–11965;
13. G. Bulai, L. Diamandescu, I. Dumitru, S. Gurlui, M. Feder, O.F. Caltun, Effect of rare earth substitution in cobalt ferrite bulk materials, *Journal of Magnetism and Magnetic Materials*, 390 (2015) pp. 123–131;
14. G. Bulai, S. Gurlui, O. F. Caltun, C. Focsa, Pure and rare earth doped cobalt ferrite laser ablation: Space and time resolved optical emission spectroscopy, *Digest Journal of Nanomaterials and Biostructures*, 10 (2015) pp.: 1043-1053;
15. Stirbu, P. Vizureanu, R. Cimpoesu, G. Dascalu, S. O. Gurlui, M. Bernevig, M. Benchea, N. Cimpoeșu, P. Postolache. Advanced metallic materials response at laser excitation for medical applications, *Journal of Optoelectronics and Advanced Materials*, 17 (2015) pp.: 1179 – 1185;
16. M. Ratoi, G. Dascalu, T. Stanciu, S. O. Gurlui, S. Stanciu, B. Istrate, N. Cimpoesu, R. Cimpoesu, Preliminary results of FeMnSi+Si(PLD) alloy degradation, *Key Engineering Materials*, 638 (2014) pp.: 117-122;
17. O. G. Pompilian, G. Dascalu, I. Mihaila, S. Gurlui, M. Olivier, P. Nemec, V. Nazabal, N. Cimpoesu, C. Focsa, Pulsed laser deposition of rare-earth-doped gallium lanthanum sulphide chalcogenide glass thin films, *Applied Physics A*, 117 (2014) pp.: 197-205;
18. G. Dascalu, G. Pompilian, B. Chazallon, O. F. Caltun, S. Gurlui, C. Focsa, Femtosecond pulsed laser deposition of cobalt ferrite thin films, *Applied Surface Science*, 278 (2013) pp. 38-42;
19. G. Dascalu, T. Popescu, M. Feder, O. F. Caltun, Structural, electric and magnetic properties of $\text{CoFe}_{1.8}\text{RE}_{0.2}\text{O}_4$ (RE=Dy, Gd, La) bulk materials, *Journal of Magnetism and Magnetic Materials*, 333 (2013) pp. 69-74;
20. G. Dascalu, G. Pompilian, B. Chazallon, V. Nica, O. F. Caltun, S. Gurlui, C. Focsa, Rare earth doped cobalt ferrite thin films deposited by PLD, *Applied Physics A: Materials Science and Processing*, 110 (2013) pp. 915-922;
21. G. Dascalu, D. Durneata, O. F. Caltun, Magnetic measurements of RE-doped cobalt ferrite thin films, *IEEE Transactions on Magnetics*, 49 (2013) pp. 46-49;
22. G. Dascalu, O. G. Caltun, CoFe_2O_4 thin films deposited by PLD with in situ heating and post annealing, *Journal of Optoelectronics and Advanced Materials*, 13 (2011) pp. 1145-1148.

Membru în proiecte de cercetare:

1. “The study of polymer-laser radiation interactions in controlled atmosphere. Laser ablation nanostructured thin films layers. Applications.”, PN-II-ID-PCE-2011-3-0650, 2011-2014 - Membru;
2. “Fast laser imaging, detection and ranging of aerosol emissions in aircraft plumes”, STAR-ROSA 98/129.11.2013, 2013-2016 - Membru;
3. “Dinamica plasmei de ablatie laser: cercetari fundamentale si aplicatii ale depunerii de straturi subtiri prin tehnica PLD”, UEFISCDI, 712/2013, 2013-2014 - Membru;
4. ”Extreme Light Induced Ablation Plasma Jet And Nanopatterning”, E03/30.06.2014, CAPACITATI / RO-CERN, ELI-NP, 2014-2016 - Membru.
5. “LOASL’s Earth Observatory”, STAR-ROSA 114/7.11.2016, 2016-2017, Membru
6. ”Satellite hybrid micro-thrusters”, STAR-ROSA 169/20.07.2017, 2017-2018, Membru
7. ”Aerosol properties retrieval from remote sensing spectroscopic measurements”, STAR-ROSA 162/20.07.2017, 2017-2019, Membru