

Etapa 3/2020

REZUMATUL ETAPEI

In cadrul etapei 3/2020 s-au dezvoltat eco nano tehnologii de functionalizare integrate utilizand metode fizice (iradiere gamma, activare in plasma, electrodepunere) si nano compozite cu proprietati antibacteriene, antistatice sau de hidrofobizare pentru obtinerea de materiale textile si din piele cu proprietati multifunctionale, avansate. Inlocuirea si reducerea materialelor chimice organice volatile, cu impact de mediu nefavorabil ofera premisele transferarii unor tehnologii avansate catre producatorii de articole medicale, echipamente de protectie, sport sau alte aplicatii si crearea de noi servicii de cercetare de catre partenerii consorțiului PHYSforTeL in beneficiul unui sector industrial de traditie, industria de textile si pielarie.

REZULTATE

Lista lucrari publicate

1. A.O. Mateescu, G. Mateescu, I. Burducea, P. Mereuta, L. Chirila, A. Popescu, M. Stroe, A Nila, M. Baibarac, Textile materials treatment with mixture of TiO₂: N and SiO₂ nanoparticles for improvement of their self-cleaning properties, J. Natural Fibers 2020, DOI: 10.1080/15440478.2020.1818349 ;
2. A. Nila, M. Baibarac, Stimulated Raman scattering and defect-based photoconductivity in mixtures of CdS/TiO₂, acceptata spre publicare la J. Appl. Phys. 2020 ;
3. C.A. Alexe, C. Gaidau, M. Stanca, A. Radu, M. Stroe, M. Baibarac, G. Mateescu, A. Mateescu, I.R. Stanculescu, Multifunctional leather surface covered with nanocomposites through conventional and unconventional methods, trimisa spre publicare la Materials Today :Proceedings 2020.
4. C. Tudoran, M. Coroş, New plasma applicator design for the improved disinfection and activation of large surfaces, Sensors and actuators A: Physical (în evaluare)
5. M. Suciuc, S. Porav, T. Radu, M.C. Rosu, D. Lazar, S. Macavei, C. Socaci, Evaluation of photocatalytic antibacterial activity and cytotoxic effect of a graphene-based ternary composite at different wavelengths, Archives of Toxicology (în evaluare)
6. C. Tudoran, M.C. Roşu, M. Coroş, A concise overview on plasma treatment for application on textile and leather materials, Plasma Processes and Polymers, 17(8) (2020) 15 pages
7. G. Borodi, A. Turza, P.A. Camarasan, A. Ulici, Structural studies of trenbolone, trenbolone acetate, hexahydrobenzylcarbonate and enanthate esters, Journal of Molecular Structure 1212 (2020), 9 pages
8. G. Borodi, A. Turza, A. Bende, Exploring the polymorphism of drostanolone propionate, Molecules 25 (2020) 1436, 20 pages
9. L. Chirila, D.V. Cosma, A. Urda, A.S. Porav, A. Turza, D. Timpu, A.O. Mateescu, UV light-shielding properties of TiO₂-based materials coated flax samples, Journal of optoelectronics and advanced materials, 22(1-2) (2020) 62 - 66
10. C. Petcu, Elvira Alexandrescu, Adriana Bălan, Maria Antonia Tănase , Ludmila Otilia Cintează “Synthesis and Characterisation of Organo-Modified Silica Nanostructured Films for the Water-Repellent Treatment of Historic Stone Buildings”, Coatings 2020, 10(10), 1010; <https://doi.org/10.3390/coatings10101010>

11. L.Chirila, D.E.Radulescu, L.O. Cinteza, D.M.Radulescu, M.Tanase, I. R.Stanculescu, Hybridmaterials based on ZnO and SiO₂ nanoparticles as hydrophobic coatings for textiles, Industria Textila, ISSN 1222-5347, vol. 71, nr. 4/2020, pg. 297-301

12. C. Gaidau, M.Stanca, M. Cutrubinis, L. Trandafir, M.Alexandru, C-A. Alexe, “Gamma irradiation a green alternative for hides and leather conservation”, Radiation Physics and Chemistry, 2021) 109369

Capitol carte:

(1) Ludmila Otilia Cinteza, Maria Antonia Tănase “Multifunctional ZnO nanoparticle –based coatings for cultural heritage preventive conservation”, in Thin Films, Ed. Alicia Esther Ares, (2020), IntechOpen, ISBN 978-1-83881-993-4