

# السيرة الذاتية

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جامعة عباس لغور خنشلة

كلية العلوم والتكنولوجيا.

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## توظيف

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### المنشورات الدولية

1. Naas, L. A., Bouaouina, B., Bensouici, F., Mokeddem, K., & Abaidia, S. E. (2024). Effect of TiN thin films deposited by oblique angle sputter deposition on sol-gel coated TiO<sub>2</sub> layers for photocatalytic applications. *Thin Solid Films*, 140275.
2. Serbout, W., Bensouici, F., Meglali, O., Iaiche, S., Bououdina, M., Bellucci, S., & Humayun, M. (2023). Fabrication of ordered layered SnO<sub>2</sub>/TiO<sub>2</sub> heterostructures and their photocatalytic performance for methyl blue degradation. *Environmental Science and Pollution Research*, 30(36), 85792-85802.
3. Abboudi, A., Iaiche, S., Djelloul, A., Chala, A., Kezzoula, F., Bensouici, F., ... & Humayun, M. (2023). Effect of fluoric acid concentration on the structural, optical, and photocatalytic properties of TiO<sub>2</sub> thin films. *Inorganic Chemistry Communications*, 155, 111073.
4. MUSTAFA, A., BENSOUICI, F., BOUOUDINA, M., et al. Tuning the optical properties and photocatalytic activity of TiO<sub>2</sub> 96Nd0. 02O<sub>2</sub> by Cd/Fe co-doping. *Journal of Materials Science: Materials in Electronics*, 2022, vol. 33, no 8, p. 5707-5719.
5. Ladjouzi, S., Guerbous, L., Bensuici, F., & Bendiba, G. (2021).  $\gamma$ -radiation, chemical synthesis of Ce<sup>3+</sup>: Gd<sub>2</sub>Si<sub>2</sub>O<sub>7</sub>/SiO<sub>2</sub> nanocomposite. *Radiation Physics and Chemistry*, 189, 109758.
6. Ahmed Kerrami, Lotfi Khezami, Mohamed Bououdina, Laila Mahtout, Abueliz Modwi, Souhila Rabhi, Faycal Bensouici, Hayet Belkacemi. (2021). “Efficient photodegradation of azucryl red by copper-doped TiO<sub>2</sub> nanoparticles—experimental and modeling studies” Environmental Science and Pollution Research, 1-14, Springer Berlin Heidelberg.
7. A Mustafa, M Bououdina, B Al-Najar, T Souier, F Bensouici, B Belache, Physical and photocatalytic properties of Nd codoped (Ag, Cu)TiO<sub>2</sub> thin films, (2021), Surface Engineering ,37, 6, 784-794, Taylor & Francis

8. Mohamed Benkhada, **Fayçal Bensouici**, Toufik Boufendi, [Parametric Study of Nanoparticles Effects on Convective Heat Transfer of Nanofluids in a Heated Horizontal Annulus](#), (2021), Journal of Nano Research, 70, 81-100, Trans Tech Publications Ltd
9. Mahdia Toubane, Assia Azizi, D Houanoh, R Tala-Ighil, **F Bensouici**, K Chebout, Mohamed Bououdina, [Effects of Thickness and Preheated Temperature on Grains Orientation of 2D-ZnO Nanostructure and their Photocatalytic Activity](#), (2021), Journal of Nano Research, 66, 113-128, Trans Tech Publications Ltd
10. Messaid, B. E., Le Paven, C., Talaighil, R. Z., Benzerga, R., Le Gendre, L., Marlec, F., & **Bensouici, F.** Optimization of a rear system based on titanium nitride for a flexible CuInSe<sub>2</sub> solar cell. *Optik*, (2020). 206, 164305.
11. BENYAKHLEF, M., **BENSOUICI, F.**, BOUOUDINA, M., et al. Surface, structural and optical properties dependence of Fe-doped TiO<sub>2</sub> films deposited onto soda-lime-glass. *Surfaces and Interfaces*, (2020), vol. 21, p. 100682. Elsevier
12. Chouk, R., Haouanoh, D., Aguir, C., Bergaoui, M., Toubane, M., **Bensouici, F.**, ... & Khalfaoui, M. (2020). Dye sensitized TiO<sub>2</sub> and ZnO charge transport layers for efficient planar perovskite solar cells: Experimental and DFT insights. *Journal of Electronic Materials*, 49(2), 1396-1403.
13. D. Haouanoh, R. TalaIghil, M. Toubane, **F. Bensouici**, & K. Mokeddem,. Effects of thermal treatment and layers' number on *SnO<sub>2</sub>* thin films properties prepared by sol-gel technique. *Materials Research Express*(2019) 6(8), 086422.
14. A. Kerrami, L.Mahtout, **F.Bensouici**, M.Bououdina, S.Rabhi, E.Sakher, & H.Belkacemi. "Synergistic effect of Rutile-Anatase Fe-doped *TiO<sub>2</sub>* as efficient nanocatalyst for the degradation of Azucryl Red" *Materials Research Express*, (2019).
15. S.Boukerche, A.Himour, M.Bououdina, **F.Bensouici**, & S.Ouchenane," Multilayered *ZnO/TiO<sub>2</sub>* nanostructures as efficient corrosion protection for stainless steel 304". *Materials Research Express*,(2019) 6(5), 055052.
16. A.Aouina, **F.Bensouici** ,M.Bououdina, R.Tala-Ighil,M.Toubane, F.Kezzoula, K.Chebout ;" Effect of Er doping on the microstructural, optical, and photocatalytic activity of *TiO<sub>2</sub>* thin films" *Mater. Res. Express* 6 (2019) 016406. IOP Publishing Ltd
17. Bachir Eddine Messaid, Claire Le Paven, Razika Zair Talaighil, Florent Marlec, Ratiba Benzerga,Laurent Le Gendre and **Fayçal Bensouici** "Partial replacement in CISe solar cells of the molybdenum layer by an epitaxial Titanium Nitride thin film deposited onto MgO substrate" *Mater. Res. Express* 5 (2018) 106408. IOP Publishing Ltd.
18. S.Bouhouche, **F.Bensouici** , M.Toubane, A.Azizi, A.Otmani, K.Chebout, F.Kezzoula, RTa-Ighil and M.Bououdina ; "Effect of *Er<sup>3+</sup>* doping on structural, morphological

and photocatalytical properties of ZnO thin films" Mater. Res. Express 5 (2018) 056407. IOP Publishing Ltd

19. B. Bouaouinaa, A. Besnard, S.E. Abaidia, A. Airoudj, **F. Bensouici**, « Correlation between mechanical and microstructural properties of molybdenum nitride thin films deposited on silicon by reactive R.F.magnetron discharge» Surface and Coatings Technology 333 (2018) 32–38
20. M. Toubane, R. Tala-Ighil, **F. Bensouici**, M. Bououdina, M. Souier, S. Liu, Weiping. Cai and A. Iratni, « Sol Concentration effect on ZnO nanofibers Photocatalytic Activity Synthesized by Sol-Gel Dip Coating Method » Mater. Res. Express 4 (2017) 035023 Copyright 2017 IOP Publishing Ltd.
21. Tala-Ighil, R., **Bensouici, F.**, Larab, B., Bachir, S., Toubane, M., Haouanoh, D., & Iratni, A. (2017). Optimized tin-doped and undoped zinc oxide thin layers for photovoltaic application. *Optoelectronics and Advanced Materials-Rapid Communications*, 11(5-6), 332-336.
22. **F. Bensouici**, M. Bououdina, A.A. Dakhel, R. Tala-Ighil, M. Tounane, A. Iratni, T. Souier, S. Liu, W. Cai, «Optical, structural and photocatalysis properties of Cu-doped  $TiO_2$  thin films», Applied Surface Science. 395 (2017) 110–116.
23. **F. Bensouici** , M. Bououdina , A.A. Dakhel , T. Souier , R. Tala-Ighil , M. Toubane , A. Iratni, S. Liu , W. Cai « Al doping effect on the morphological, structural and photocatalytic properties of  $TiO_2$  thin layers » Thin Solid Films, 616 (2016), 655–661
24. M. Toubane, R.Tala-Ighil, **F.Bensouici**, M.Bououdina, W.Cai, S.Liu, M.Souier, A.Iratni ; «Structural, optical and photocatalytic properties of ZnO nanorods : Effect of aging time and number of layers » Ceramics International. 42 (2016)9673–9685.
25. **F.Bensouici**, T.Souier, A.A. Dakhel, A.Iratni, R.Tala-Ighil, M.Bououdina « Synthesis, characterization and photocatalytic behavior of Ag doped  $TiO_2$  thin film » Superlattices and Microstructures. 85 (2015) 255–265.
26. S. Ladjouzi, R. Tala-Ighil, A. Iratni, M. Izerrouken, L. Guerbous, S. Hadji, **F. Bensouici**, Pérez ; «  $\gamma$ -Ray Irradiation Effect On  $Gd_2O_3/Silica : Ce^{3+}$  Composite Prepared By Sol Gel Method » Radiation Physics and Chemistry, 114 (2015) 1–4.
26. Razika Tala-Ighil, Mahdia Toubane, **Fayçal Bensouici**, Amel Slimani, D. Haouanoh, Aicha Iratni And Samira Sali, « Effect Of Back Contact Material On Czts Solar Cells Simulated With Amps » Journal of Applied Physical Science International, ISSN No. : ISSN : 2348–0130 , Vol. 3, Issue : 1, 2015 , Page 1–6.

27. **F.Bensouici**, T.Souier, A.Iratni, A.Iratni, A.A.Dakhel, R.Tala-Ighil, M.Bououdina, "Effect of acid nature in the starting solution on surface and photocatalytic properties of  $TiO_2$  thin films" Surface and coatings Technology 2014 (251) 170–176.

### Book chapter

—Chapitre 27 : **F. Bensouici**, R. Tala-Ighil,cand M. Bououdina ; « Nanostructured Oxide Materials for Photodegradation of Dyes » RSC Detection Science Series No.10 Advanced Environmental Analysis : Applications of Nanomaterials, Volume 2 ; 207–234. Edited by Chaudhery Mustansar

Hussain and Boris Kharisov, The Royal Society of Chemistry 2017

—Chapitre 56 : 14) **F.Bensouici**, M. Bououdina, A. Iratni, M. Toubane, R. Tala-Ighil "Effect of thickness on photocatalytic activity of  $TiO_2$  thin films. Book chapter dans : Progress in Clean Energy, Volume 1 : Analysis and Modeling. Springer, (2015) 763–777.)

### مداخلات دولية

1. **F.BENSOUICI** “ Thin films  $TiO_2$  and Cr Doped  $TiO_2$  Nanostructures as Efficient Corrosion Protection for Stainless Steel International Conference on Electron Devices and Applications (ICEDA 2021), NANJING, CHINA | AUGUST 14-16, 2021.
2. S. IAICHE\*(1), D. ALAMARGUY(2), N. GABOUZE(3), AI AYESH(4), A. DJELLOUL(1), C. BOUMAZA(1), D. HAMANA(5), **F. BENSOUICI(6)**, A. SERRAR(7 ) and A. BOUABELLOU(8). “INFLUENCE OF Zn SOLUTION CONCENTRATION ON THE GROWTH OF Zn-Sn-O NANOSTRUCTURE THIN FILMS”, 2019 International Conference on Materials and Nanomaterials (MNs-19), avec proceeding
3. IAICHE, S., GABOUZE, N., HAMANA, D., DJELLOUL, A., SERRAR, A., **BENSOUICI, F.**, ... & BOUABELLOU, A.” ZnO: Mg/ZnAl<sub>2</sub>O<sub>4</sub> heterostructures formation on silicon substrate for Ammoniac gas detection” , 2019 International Conference on Materials and Nanomaterials (MNs-19),
4. Samia Ladjouzi, R. Tala-ighil, L. Guerbous, **F. Bensouici** “Sol Gel Synthesis and Thermal Treatment Effect on Ce<sup>3+</sup> Doped GdBO<sub>3</sub> Nanoclusters Obtained in Silica Glass” Proceedings of the 4<sup>TH</sup> international symposium on materials and sustainable developement; volume 1: NANOTECHNOLOGY AND ADVANCED MATERIALS. Pages 152-161. [https://link.springer.com/chapter/10.1007/978-3-030-43268-3\\_13](https://link.springer.com/chapter/10.1007/978-3-030-43268-3_13)
5. **F. Bensouici**, A. Mammeri,A. Aouina, R. Tala-Ighil, M. Toubane,D. Houanouh “Ag-Er Co-Doped TiO<sub>2</sub> Thin Films” International Conference on Nanomaterials and Renewable Energies ICNRE 2018, 15-17 October 2018. Skikda, Algeria ,P64
6. M. Benyakhlef, **F. Bensouici**, R. Tala-Ighil, M. Toubane. “Preparation and Characterization of Nd Doped Tio<sub>2</sub> Thin Films”, International Conference on

*Nanomaterials and Renewable Energies ICNRE 2018, 15-17 October 2018. Skikda, Algeria, P68.*

7. S. Boukerche , M.Bououdina, A. Himour , S. Ouchenane1, **F. Bensouici** "Investigation of the Effect of ZnO/TiO<sub>2</sub> Phase Composition on Corrosion of Stainless Steel 304" *International Conference on Nanomaterials and Renewable Energies ICNRE 2018, 15-17 October 2018. Skikda, Algeria, P94.*
8. M. Toubane, **F. Bensouici**, R. TalaIghil , M. Bououdina, "Effect of thermal treatment on the properties of ZnO thin films" *International Conference on Nanomaterials and Renewable Energies ICNRE 2018, 15-17 October 2018. Skikda, Algeria, P335*
9. S. Bouhouche, A. Otmani1, **F. Bensouici**, M. Toubane, R Tala-Ighil. R. Kalai "**Synthesis, Characterization, and Photocatalysis of ZnO and Er-Doped ZnO thin films**" *Proceeding of the 5<sup>th</sup> international conference on maintenance and industrial safty CIMSI 2019;P 145*
10. D.Haouanoh, M. Toubane, **F.Bensouici**, R.TalaIghil, A. P.Samantilleke,, (2017, December). "Study of Temperature and Concentration Effects for CZTS Layers using Spray Pyroly- sis." In 2017 International Renewable and Sustainable Energy Conference (IRSEC) (pp. 1-6). IEEE.
11. B. Messaid, C. Le Paven, R. Tala-ighil, R. Benzerga, F. Marlec, L. Legendre and **F. bensouici** "The epitaxial titanium nitride layer deposited onto the MgO substrate used as rear contact for CISe solar cell",second international conference on electrical engineering,ICEEB18, de- cembre, biskra 2018.
12. **Fayçal bensouici**, M. benyakhlef, M. bououdina, R. tala-ighil, M. toubane and B. bouaouina « Structural, morphological and photocatalytic properties of Fe doped TiO<sub>2</sub> thin layers», Science and Applications of Thin Films, Conference & Exhibition (SATF 2018), Izmir Insti- tute of Technology., Izmir, Turkey, September 17-21, 2018
13. **F.Bensouici**, R.Aouina, R.Tala-Ighil, S.Kebaili, M.Toubane, B.Bouauina, M.Benyakhlef ; «Effect of Er-Doped TiO<sub>2</sub> Thin Films on optical, microstructural and photocatalytic activity pre- pared by sol-gel », Progress in Applied Surface, Interface and Thin Film Science (SURFINT- SREN V) 20- 23 novembre 2017, Florence, Italy.
14. D. Haouanoh, R. TalaIghil, **F. Bensouici** and M. Toubane " Influence of Deposition Time on the CdS Thin Films Prepared by a Chemical Bath Deposition (CBD)" SMSD 2017 Third International Symposium on Materials and Sustainable Development. 7&8 november 2017, boumerdes, Algeria.
15. M. Toubane, R.Tala-Ighil, **F.Bensouici**, M.Bououdina, W.Cai, S.Liu, M.Souier, A.Iratni ; «Aging Time Effect on ZnO Thin Films Photocatalytic Activity Synthesized by Sol-Gel Dip Coating Method », ANM 2016, 25-27 july 2016, University of Aveiro, Aveiro- Portugal.
16. **F.Bensouici**, A. A.Dakhel, A.Iratni, R.Tala-Ighil, M.Toubane, M. Bououdina, A.Slimani ; « Optical, structural and photocatalysis properties of Cu-Doped TiO<sub>2</sub> Thin Films », Progress in Applied Surface, Interface and Thin Film Science (SURFINT- SREN IV) 23- 26 novembre 2015, Florence, Italy.

17. D.Haouanoh, M.Toubane, R. Tala Ighil, **F. Bensouici**, A.Slimani ; « Influence de la tempé- rature sur les couches minces de CZTS » Le 1er Concongrès Algérien De Caractérisation, Propriétés Et Modélisation De Matériaux Et Des Matériaux Composites (CACPM3C-1'2015) 19 au 21 Mai 2015.
18. M.Toubane, R. Tala Ighil, **F. Bensouici**, A.Iratni, A. Azizi and D. Haouanoh, « thickness effect on photocatalytic activity of ZnO Thin Films » journées internationales de cinétique, catalyse et calorimétrie « les 3C au service du génie des Procédés » 02 au 04 Mai 2015, USTHB, Alger.
19. **F. Bensouici**, T. Souier, A. Iratni, A.A. Dakhel, R. Tala-Ighil and M. Bououdina, Effect of acid nature in the starting solution on surface and photocatalytic properties of  $TiO_2$  Thin Films, 3rd International Laboratory Technology Conference & Exhibition (LABTECH2014) OCT 28-30, 2014, KINGDOM OF BAHRAIN.
20. **F.Bensouici**,A,Iratni, M. Toubane, R.Tala-ighil,A.slimani, "Photocatalytic behavior of Ag doped  $TiO_2$  thin films,1st International conference on materials & Environmental Engineering- ICM3E'14, November 23<sup>rd</sup> – 25<sup>th</sup> 2014, Algiers, Algeria
21. **F.Bensouici**, M. Bououdina, A. Iratni, M. Toubane, R. Tala-Ighil " Effect of thickness on photocatalytic activity of  $TiO_2$  thin films", 13th International conference on clean energy, istanbul, June 8-12, 2014.
22. M. Toubane, I. Aicha, **F .Bensouici**, A. Slimani, R.Tala-ighil ,”Studies of optical properties of the Al doped ZnO thin films prepared by sol-gel method associated with dip coating ”, 13th International conference on clean energy, istanbul, June 8-12, 2014
23. M. Toubane, R.Tala-ighil , **F. Bensouici**,A. Iratni , A.Azizi , A. slimani, " Photocatalytic Degradation of Methylene Bleue by ZnO Thin Films", International conference on materials & Environmental Engineering- ICM3E'14, November 23rd–25th 2014, Algiers, Algeria
24. M.Toubane, A.Iratni, R.Tala-ighil, A.Slimani and **F.Bensouici**, « Etude de l'influence du dopage sur les propriétés structurales et optiques des couches minces ZnO », Second in-ternational Conference on New materials and active devices » NMCA'2014 May 25th-26th 2014, Oum El Bouaghi Algeria.
25. R.Tala-Ighil, B.Larab, S.Bachir, A.Iratni, **F.Bensouici**, M.Toubane, A.Slimani, « Effect of zinc acetate precursor concentration in structural properties of tin doped and undoped zinc oxide layers », 2nd International Congress on Energy Efficiency and Energy relates Mate- rials, ENEFM14, oct 16-19, 2014, oludeniz-Turkey.
26. R.Talaighil, M.Toubane, **F.Bensouici**, A.Slimani, A. Iratni, S.Sali, "AMPS Numerical simu- lation for CZTS based solar cells", International conference on materials & Environmental Engineering- ICM3E'14, November 23rd-25th 2014, Algiers, Algeria
27. M.Toubane, A.Iratni, **F.Bensouici** , R Tala-Ighil,A.Slimani,N.Arabi ; « Elaboration Et Carac- terisation De Couches Minces ZnO» Premières journées internationales de physique uni- versité constantine 1 (JIPC 2013)
28. **F.Bensouici**, A.Iratni, M.Toubane, R.Tala-Ighil, A.Slimani « Propriétés des couches minces de  $TiO_2$  élaboré par la voie sol gel» International Symposium on Materials and Sustainable development, Boumerdes, Algeria, May 06–09, 2013.

29. R.Tala-Ighil , F.Djeridane, K.Allache ,A.Iratni And **F.Bensouici** « characterisation of glass properties by using DTA Method » International Symposium on Materials and Sustainable developement, Boumerdes, Algeria, May 06–09, 2013.
30. F.Bensouici ; A.Iratni ;N.Arabi ; M.Toubane And R.Tala-Ighil « Preparation and Characteri- zation of thin films  $Ag/TiO_2$  obtained by the sol-gel method ». 2ndInternational Advances in Applied Physics and Materials Science Congress (APMAS 2012), Antalya, Turkey.24–28 April 2012.
31. A.Iratni , R.Tala-Ighil, **F.Bensouici** ; N.Arabi, A.Slimani “Optimization of ZnO window layer for silicon and (CIS) based solar cells” international work shop on advanced materials, IWAM 4, Ras El Khaima, UAE 19–21 feb 2012.
32. R.Tala-Ighil ; A.Iratni , **F.Bensouici** ;N.Arabi, A.Slimani “ Effect of CdS replacement by Cd- free buffer layer onto (CIS) solar cell” international work shop on advanced materials, IWAM 4, Ras El Khaima, UAE 19-21 feb 2012.
33. **F.Bensouici**, A.Iratni, N.Arabi « Structural properties study of  $TiO_2$  thin film »work shop IWAM 2011 ; 3rd annual international Workshop on Advanced Material ;20–22 feb 2011.
34. F.Guerfa, **F.Bensouici**, S.Achour and A.Harabi. "On the dissociation of Dolomite to MgO and  $CaCO_3$ ". Conférence Internationale sur la physique et ses application CIPA'2003, 8–10 Décembre 2003.