

Faculté/Institut : Sciences Exactes

Département : Chimie

1- Identification du laboratoire/Unité de recherche		
مخبر التقنيات الحديثة لحفظ المحيط		إسم المخبر
Intitulé du Laboratoire	Techniques Innovantes de Préservation de L'Environnement	
Acronyme du labo	LTIPE	
Adresse électronique	azertal@hotmail.com	
Site web ou URL	www.ltape-dz.net	
Année d'Agrément :	2011	Tel : 031 81 11 77 Fax : 031 81 11 77

2- Directeur du laboratoire/Unité de recherche			
Nom & Prénom	ZERTAL Abdennour	Grade : Professeur	
Adresse Electronique	azertal@hotmail.com		
Nombre Equipes :	04	Nbre Chercheurs : 24	Nbre Personnel soutien : 00

3- Présentation du laboratoire	
Thèmes mis en œuvres :	
<ul style="list-style-type: none">➤ Evaluation : enquête sur terrain dans les milieux aquatiques et les sols,➤ Suivie du devenir de polluants organiques (pesticides, produits pharmaceutiques, engrais, colorants, ...) dans ces milieux.➤ Traitement par des processus de transformation abiotique (hydrolyse, photolyse, phototransformation induite et catalysée) et biotique (biodégradation).➤ Optimisation des méthodes de traitement.	
Mots-Clés :	
Environnement, phototransformation, photodégradation, eau, adsorption, P.O.A, photocatalyse, biodégradation, microorganismes, sols, Polluants.	

4- Chefs d'équipes		
Titre de l'Equipe1	Méthodes non destructives et processus photocatalytiques d'élimination de la pollution organique.	
Nom - Chef d'équipe ¹	ZERTAL Abdennour	Grade : Professeur
Titre de l'Equipe2	Traitement Photochimique de la Micropollution Organique.	
Nom - Chef d'équipe ²	BOULKAMH Abdelaziz	Grade : Professeur
Titre de l'Equipe3	Couplage photo et biodégradation de polluants organiques	
Nom - Chef d'équipe ³	MALOUKI Moulay Abderrahmane	Grade : Professeur
Titre de l'Equipe4	Transformation photoinduite par la matière organique naturelle	
Nom - Chef d'équipe ⁴	AMINE-KHODJA Amina	Grade : Professeur

5) Liste des Publications Internationales (36)

Année 2016

1	<p>O. BAGHRICHE, S. RTIMI, C. PULGARIN, J. KIWI. <i>Polystyrene CuO/Cu₂O uniform films inducing MB-degradation under sunlight.</i> Catalysis Today xxx, xxx-xxx (2016). www.elsevier.com/locate/cattod</p>
2	<p>R. TAFER, M. SLEIMAN, A. BOULKAMH, C. RICHARD <i>Photomineralization of aqueous salicylic acids. Photoproducts characterization and formation of light induced secondary OH precursors (LIS-OH).</i> Water Research 106, 496-506 (2016). www.elsevier.com/locate/watres</p>
3	<p>R. TAFER, P. DE SAINTE-CLAIRE, P. VICENDO, A. BOULKAMH, C. RICHARD <i>Photochemistry of 5-Halogenosalicylic Acids: Evidence of the Triplet Involvement in the Carbene Formation.</i> ChemistrySelect 1, 4704 - 4712 (2016). DOI: 10.1002/slct.201600979</p>
4	<p>R. MERIBOUT, Y. ZUO, A. AMINE-KHODJA, A. PIRAM, S. LEBARILLIER, J. CHENG, C. WANG et P. WONG-WAH-CHUNG <i>Photocatalytic degradation of antiepileptic drug carbamazepine with bismuth oxychlorides (BiOCl and BiOCl/AgCl composite) in water: Efficiency evaluation and elucidation degradation pathways</i> Journal of Photochemistry and Photobiology A: Chemistry, 328, 105-113 (2016). www.elsevier.com/locate/jphotochem</p>
5	<p>O. BRAHMIA, <i>Humic substances and napropamide interactions in aqueous solution. A fluorescence spectroscopy study.</i> J. Mater. Environ. Sci. 7 (6) 1948-1957 (2016). http://www.jmaterenvironsci.com/Document/vol7/vol7_N6/210-JMES-2419-Brahmia.pdf</p>
6	<p>O. BRAHMIA, A. BOULKAMH <i>The influence of the structure of humic substances extracted from different soils and peats on their capacity to photosensitize 1-naphthol.</i> J. Mater. Environ. Sci. 7 (1) 310-318 (2016). http://www.jmaterenvironsci.com/Document/vol7/vol7_N1/33-JMES-2126-2015-Brahmia.pdf</p>
7	<p>O. BRAHMIA, F. LOUAFI <i>Cationic dye adsorption onto various natural adsorbents: a comparison study.</i> Res. J. Pharm. Biol Chem Sci, 7 (3) 1698-1707 (2016). http://www.rjpbcs.com/pdf/2016_7(3)/[210].pdf</p>

Année 2015	
8	<p>O. BRAHMIA, F. LOUAFI. <i>Methylene blue mineralisation par electrochemical process mediated by cobalt catalyst on platinum electrodes.</i> Sci. Technol. A 42, 9-14 (2015).</p>
9	<p>O. BAGHRICHE, S. RTIMI, A. ZERTAL, C. PULGARIN, R. SANJINÉS, J. KIWI. <i>Accelerated bacterial reduction on Ag–TaN compared with Ag–ZrN and Ag–TiN surfaces.</i> Applied Catalysis B: Environmental 174, 376–382 (2015). www.elsevier.com/locate/apcatb</p>
Année 2014	
10	<p>MEZIOUD N., BOUZIANE N., MALOUKI M. A., ZERTAL A., MAILHOT G. <i>Methabenzthiazuron degradation with illuminated TiO₂ aqueous suspensions. Kinetic and reactional pathway investigations.</i> Journal of Photochemistry and Photobiology A: Chemistry 288, 13–22 (2014). www.elsevier.com/locate/jphotochem</p>
11	<p>BOUCHAMA S., DE SAINTE-CLAIRE P., ARZOUMANIAN E., OLIVEROS E., BOULKAMH A. and RICHARD C. <i>Photoreactivity of the fungicide chlorothalonil in aqueous medium.</i> Environ. Sci.: Processes Impacts 16, 839-847 (2014) www.rsc.org/publishing/journals/em/about.asp</p>
12	<p>RTIMI S.; BAGHRICHE O.; PULGARIN C.; EHIASARIAN A.; BANDORF R.; KIWI J. <i>Comparison of HIPIMS sputtered Ag- and Cu-surfaces leading to accelerated bacterial inactivation in the dark.</i> Surface and Coatings Technology 250, 14–20 (2014) www.elsevier.com/locate/surfcoat</p>
Année 2013	
13	<p>Rtimi, S., Baghriche, O., Pulgarin, C., Lavanchy, J.-C., Kiwi, J. <i>Growth of TiO₂/Cu films by HiPIMS for accelerated bacterial loss of viability.</i> Surface and Coatings Technology 232, 2013, pp. 804-81. www.elsevier.com/locate/surfcoat</p>
14	<p>Baghriche, O., Rtimi, S., Pulgarin, C., Roussel, C., Kiwi, J. <i>Corrigendum to "RF-plasma pretreatment of surfaces leading to TiO₂ coatings with improved optical absorption and OH-radical production" [Appl. Catal. B: Environ. 130-131 (2013) 65-72].</i> Applied Catalysis B: Environmental 142-143, 2013, pp. 892-895. www.elsevier.com/locate/apcatb</p>

15	<p>Rtimi, S., Pulgarin, C., Baghriche, O., Kiwi, J.</p> <p><i>Accelerated bacterial inactivation obtained by HIPIMS sputtering on low cost surfaces with concomitant reduction in the metal/semiconductor content.</i></p> <p>RSC Advances 3 (32) , 2013, pp. 13127-13130.</p> <p>www.rsc.org/advances</p>
16	<p>Rtimi, S., Baghriche, O., Sanjines, R., Pulgarin, C., Bensimon, M., Kiwi, J.</p> <p><i>TiON and TiON-Ag sputtered surfaces leading to bacterial inactivation under indoor actinic light.</i></p> <p>Journal of Photochemistry and Photobiology A: Chemistry 256 , 2013, pp. 52-63.</p> <p>www.elsevier.com/locate/jphotochem</p>
17	<p>Senna, M., Myers, N., Aimable, A., Laporte, V., Pulgarin, C., Baghriche, O., Bowen, P.</p> <p><i>Modification of titania nanoparticles for photocatalytic antibacterial activity via a colloidal route with glycine and subsequent annealing.</i></p> <p>Journal of Materials Research 28 (3), 2013, pp. 354-361.</p> <p>www.elsevier.com/locate/jmaterres</p>
18	<p>Baghriche, O., Rtimi, S., Pulgarin, C., Roussel, C., Kiwi, J.</p> <p><i>RF-plasma pretreatment of surfaces leading to TiO₂ coatings with improved optical absorption and OH-radical production.</i></p> <p>Applied Catalysis B: Environmental 130-131, 2013, pp. 65-72</p> <p>www.elsevier.com/locate/apcatb</p>
19	<p>Baghriche, O., Rtimi, S., Pulgarin, C., Sanjines, R., Kiwi, J.</p> <p><i>Effect of the spectral properties of TiO₂, Cu, TiO₂/Cu sputtered films on the bacterial inactivation under low intensity actinic light.</i></p> <p>Journal of Photochemistry and Photobiology A: Chemistry 251, 2013, pp. 50-56.</p> <p>www.elsevier.com/locate/jphotochem</p>
Année 2012	
20	<p>O. Baghriche, A.P. Ehiasarian, E. Kusiak-Nejman, C. Pulgarin, R. Sanjines, A.W. Morawskic, J. Kiwi.</p> <p><i>High power impulse magnetron sputtering (HIPIMS) and traditional pulsed sputtering (DCMSP) Ag-surfaces leading to E. coli inactivation.</i></p> <p>Journal of Photochemistry and Photobiology A: Chemistry 227, 11-17, 2012.</p> <p>www.elsevier.com/locate/jphotochem</p>
21	<p>O. Baghriche, J. Kiwi, C. Pulgarin, R. Sanjines.</p> <p><i>Antibacterial Ag–ZrN surfaces promoted by subnanometric ZrN-clusters deposited by reactive pulsed magnetron sputtering.</i></p> <p>Journal of Photochemistry and Photobiology A: Chemistry 229, 39– 45, 2012.</p> <p>www.elsevier.com/locate/jphotochem</p>
22	<p>O. Baghriche, C. Ruales, R. Sanjines, C. Pulgarin, A. Zertal, I. Stolitchnov, J. Kiwi.</p> <p><i>Ag-surfaces sputtered by DC and pulsed DC-magnetron sputtering effective in bacterial inactivation: Testing and characterization.</i></p>

	<p>Surface & Coatings Technology 206, 2410–2416, 2012. www.elsevier.com/locate/surfcoat</p>
23	<p>Oualid Baghriche, A. Zertal, Arutiun P. Ehiasarian, R. Sanjines, Cesar Pulgarin, Ewelina Kusiak-Nejman, Antoni W. Morawski, J. Kiwi. <i>Advantages of highly ionized pulse plasma magnetron sputtering (HIPIMS) of silver for improved E. coli inactivation.</i> Thin Solid Films 520, 3567–3573, 2012. www.elsevier.com/locate/tsf</p>
24	<p>S. Rtimi, O. Baghriche, R. Sanjines, C. Pulgarin, M. Ben-Simon, J.-C. Lavanchy, A. Houas, J. Kiwi. <i>Photocatalysis/catalysis by innovative TiN and TiN-Ag surfaces inactivate bacteria under visible light.</i> Applied Catalysis B: Environmental 123–124, 306-315, 2012. www.elsevier.com/locate/apcatb</p>
25	<p>S. Rtimi, O. Baghriche, C. Pulgarin, R. Sanjines and J. Kiwi. <i>Design, testing and characterization of innovative TiN–TiO₂ surfaces inactivating bacteria under low intensity visible light.</i> RSC Advances 2, 8591–8595, 2012. www.rsc.org/advances</p>
26	<p>S. Halladja, A. Boulkamh, C. Richard <i>Fate of fluometuron dissolved in natural waters and exposed to solar light.</i> The Online Journal of Science and Technology 2012, 2 (4), 24-29. www.tojsat.net</p>
27	<p>C. Richard, S. Halladja, C. Coelho, G. Guyot, A. ter Halle, A. Boulkamh <i>Environmental Impact of Humic Substances through their Interaction with Solar Light. Humic Substances in Ecosystems HSE9,</i> Chapter of the International Humic Substances Society, Wroclaw (Poland), 2012.</p>
28	<p>S. Kouras-Hadef, A. Amine-Khodja, S. Halladja and C. Richard. <i>Influence of humic substances on the riboflavin photosensitized transformation of 2,4,6-trimethylphenol.</i> Journal of Photochemistry and Photobiology, A : Chemistry 229, 33-38, 2012. www.elsevier.com/locate/jphotochem</p>
29	<p>E. De Laurentiis, S. Chiron, S. Kouras-Hadef, C. Richard, M. Minella, V. Maurino, C. Minero, D. Vione. <i>Photochemical fate of carbamazepine in surface freshwaters: laboratory measures and modeling.</i> Environmental Science & Technology 07 46(15), 8164-73, 2012. http://pubs.acs.org/journal/esthag</p>
30	<p>S. Azzouz, R. Meribout, C. Boukhalifa, <i>Characterization of Phosphate Adsorption on Sediments.</i> Procedia Engineering 33, 285-292, 2012. www.elsevier.com/locate/procedia</p>

31	<p>Badis Khennaoui, Moulay Abderrahmane Malouki, Zakaria Redouane Salah and Abdennour Zertal.</p> <p><i>Homogeneous Photodegradation of an Azo Dye (Orange Methyl) by Decatungstates of Sodium.</i> <i>Journal of Environmental Science and Engineering A</i> 1, 844-852, 2012. Formerly part of <i>Journal of Environmental Science and Engineering</i>, ISSN 1934-8932.</p>
Année 2011	
32	<p>A. Allaoui, M.A. Malouki, P. Wong-Wah-Chung</p> <p><i>Efficient degradation of methabenzthiazuron photoinduced by decatungstate anion in water : Kinetics and mechanistic studies.</i> <i>Chemosphere</i>, 85, 4, October, 558-564, 2011. www.elsevier.com/locate/chemosphere</p>
33	<p>E. Kusiak-Nejman, A.W. Morawski, A. P. Ehasarian, C. Pulgarin, O. Baghriche, E. Mielczarski, J. Mielczarski, A. Kulik, and J. Kiwi.</p> <p><i>E.coli Inactivation by High-Power Impulse Magnetron Sputtered (HIPIMS) Cu Surfaces.</i> <i>The journal of physical chemistry C</i> 115, 21113–21119. 2011. www.pubs.acs.org/JPCC</p>
34	<p>H. Bougherara, O. Bentabet, R. Meribout, W. Cheurfi, B. Kebabi,</p> <p><i>Denitrification in Natural Nutritious Medium.</i> <i>Journal of Environmental Science and Engineering</i> 5, 1093-1099, 2011. www.neeri.res.in</p>
35	<p>S. Kouras-Hadef, P. De sainte-Claire, A. Ter-Halle, A. Amine-Khodja and C. Richard</p> <p><i>The role of triplet state keto-enol tautomerism in the photodeamination of metamitron.</i> <i>The journal of physical chemistry A</i> 115, 14397-14406, 2011 www.pubs.acs.org/JPCA</p>
36	<p>D. Vione, P. R. Maddigapu, E. De Laurentiis, M. Minella, M. Pazzi, V. Maurino, C. Minero, S. Kouras, C. Richard</p> <p><i>Modelling the photochemical fate of ibuprofen in surface waters.</i> <i>Water Research</i>, Volume 45, Issue 20, 15, Pages 6725-6736, 2011. www.elsevier.com/locate/water-research</p>