

Liste des publications

Cristian Barca, Maître de Conférences Aix-Marseille Université

IUT d'Aix-Marseille, département Génie Chimique Génie des Procédés

Laboratoire M2P2 UMR 7340, équipe Traitement des Eaux et Déchets

Section CNU 62 : Energétique, Génie des Procédés

Mail : cristian.barca@univ-amu.fr

ARTICLES DANS DES REVUES INTERNATIONALES AVEC COMITE DE LECTURE

Barca C., Scanu D., Podda N., Miche H., Poizat L., Hennebert P., 2021. Phosphorus removal from wastewater by carbonated bauxite residue under aerobic and anoxic conditions. *Journal of Water Process Engineering* 39, 101757. <https://doi.org/10.1016/j.jwpe.2020.101757>

Ohanessian, K., Monnot, M., Moulin, P., Ferrasse, J.-H., **Barca, C.**, Soric, A., Boutin, O., 2020. Dead-end and crossflow ultrafiltration process modelling: Application on chemical mechanical polishing wastewaters. *Chemical Engineering Research and Design* 158, 164–176. <https://doi.org/10.1016/j.cherd.2020.04.007>

Barca C., Martino M., Hennebert P., Roche N., 2019. Kinetics and capacity of phosphorus extraction from solid residues obtained from wet air oxidation of sewage sludge. *Waste Management* 89, 275-283. <https://doi.org/10.1016/j.wasman.2019.04.024>

Barca C., Roche N., Troesch S., Andrès Y., Chazarenc F., 2018. Modelling hydrodynamics of horizontal flow steel slag filters designed to upgrade phosphorus removal in small wastewater treatment plants. *Journal of Environmental Management* 206, 349-356. <https://doi.org/10.1016/j.jenvman.2017.10.040>

Barca C., Ranava D., Bauzan M., Ferrasse J-H., Giudici-Ortoni M-T., Soric A., 2016. Fermentative hydrogen production in an up-flow anaerobic biofilm reactors inoculated with a co-culture of *Clostridium acetobutylicum* and *Desulfovibrio vulgaris*. *Bioresource Technology* 221, 526-533. <https://doi.org/10.1016/j.biortech.2016.09.072>

Barca C., Soric A., Ranava D., Giudici-Ortoni M-T, Ferrasse J-H., 2015. Anaerobic biofilm reactors for dark fermentative hydrogen production from wastewater: A review. *Bioresource Technology* 185, 386-398. <https://doi.org/10.1016/j.biortech.2015.02.063>

Barca C., Meyer D., Liira M., Drissen P., Comeau Y., Andres Y., Chazarenc F., 2014. Steel slag filters to upgrade phosphorus removal in small wastewater treatment plants: Removal mechanisms and performance. *Ecological Engineering* 66, 214-222. <https://doi.org/10.1016/j.ecoleng.2014.03.065>

Barca C., Troesch S., Meyer D., Drissen P., Andres Y., Chazarenc F., 2013. Steel slag filters to upgrade phosphorus removal in constructed wetlands: two years of field experiments. *Environmental Science & Technology* 47, 549-556. <http://pubs.acs.org/doi/abs/10.1021/es303778t>

Barca C., Gérente C., Meyer D., Chazarenc F., Andrès Y., 2012. Phosphate removal from synthetic and real wastewater using steel slags produced in Europe. *Water Research* 46, 2376-2384. <https://doi.org/10.1016/j.watres.2012.02.012>

COMMUNICATIONS DANS DES CONGRES INTERNATIONAUX

Barca C., Scanu D., Magari M., Poizat L., Hennebert P.. *Modified bauxite residue as filter material to upgrade phosphorus removal in constructed wetlands: batch and column scale experiments*. 16th IWA Specialist Conference on Wetland Systems for Water Pollution Control ICWS 2018, 30 Sept.- 4 Oct. 2018, Valencia, Spain.

Ohanessian K., **Barca C.**, Ferrasse J-H., Soric A., Boutin O.. *Optimization of fluorinated and phosphoric acids stream treatment from microelectronic industry*. 21st Conference on Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction PRES 2018, 25-29 August 2018, Prague, Czech Republic. Conference paper in proceedings.

Barca C., Martino M., Chazarenc F., Roche N., Hennebert P. *Phosphorus recovery from solid residues originated from wastewater treatment plants*. International IWA conference on sustainable solutions for small water and wastewater treatment systems (S2small2017), 22-26 October 2017, Nantes, France.

Barca C., Roche N., Troesch S., Andrès Y., Chazarenc F.. *Modelling hydrodynamics of horizontal flow steel slag filters designed to upgrade phosphorus removal in constructed wetlands: a field study*. IWA Specialist Conference on Wetland Systems for Water Pollution Control ICWS 2016, 4-9 Sept. 2016, Gdansk, Poland. Conference Proceedings Volume 1, pp. 82-101; ISBN: 83-60261-14-8. Conference paper in proceedings.

Tomczak W., Ranava D., Backes C., **Barca C.**, Ferrasse J.H., Giudici-Ortoni M.T., Soric A. *Experimental strategy for hydrogen production from wastewater*. 11th Hydrogenase conference, 10-14 Jul 2016, Marseille, France.

Barca C., Ranava D., Ferrasse J-H., Giudici-Ortoni M-T, Soric A. *Dark fermentative hydrogen production in an anaerobic packed bed biofilm reactor*. ECCE10 + ECAB 3 + EPIC 5, 27 Sept - 1 Oct. 2015, Nice, France.

Barca C., Ranava D., Ferrasse J-H., Giudici-Ortoni M-T, Soric A. *Fermentative hydrogen production from wastewater using a coculture of Clostridium acetobutylicum and Desulfovibrio vulgaris in upflow anaerobic biofilm reactors*. Focus on Frontiers in Industrial Biotechnology SCI London, 17-19 Nov. 2014, London, UK.

Barca C., Meyer D., Troesch S., Gérente C., Andrès Y., Chazarenc F. *Steel slag filters to upgrade phosphorus removal in constructed wetlands - main factors controlling removal efficiency*. 5th International Symposium on Wetland Pollutant Dynamics and Control, WETPOL 2013. 13-17 Oct. 2013, Nantes, France.

Barca C., Troesch S., Meyer D., Drissen P., Andres Y., Chazarenc F. (keynote). *Steel slag filters to upgrade phosphorus removal in small wastewater treatment plants : two years of field experiments in France*. 13th International Conference on Wetland Systems for Water Pollution Control. 25-29 November 2012, Perth, Australia, International Water Association (IWA). Conference paper in proceedings.

Meyer D., **Barca C.**, Drissen P., Rex M., Andres Y., Chazarenc F. *Slag filters for upgraded phosphorus removal from constructed wetlands: two years of lab scale column experiments*. 13th International Conference on Wetland Systems for Water Pollution Control. 25-29

November 2012, Perth, Australia, International Water Association (IWA). Conference paper in proceedings.

Barca C., Meyer D., Gérente C., Andrès Y., Troesch S., Chazarenc F. *The use of steel slag as a substrate to treat wastewater: an integrated approach*. 13th International Waste Management and Landfill Symposium. 3-7 October 2011, Cagliari, Italy. Conference paper in proceedings.

Barca C., Troesch S., Meyer D., Robinet A., Esser D., Andrès Y., Chazarenc F. *The use of steel slag filters for upgrading phosphorus removal from constructed wetlands: full scale experiments in France*. Joint Meeting of Society of Wetland Scientists, Wetpol and Wetland Biogeochemistry Symposium. 3-8 July 2011, Prague, Czech Republic.

Meyer D., Liira M., **Barca C.**, Andrès Y., Chazarenc F. *The use of slag filters for upgrading phosphorus removal from constructed wetlands: lab scale column experiments*. Joint Meeting of Society of Wetland Scientists, Wetpol and Wetland Biogeochemistry Symposium. 3-8 July 2011, Prague, Czech Republic.

Barca C., Chazarenc F., Gérente C., Andrès Y., Drissen P. *The use of slag as a sorbent to treat wastewater in Europe*. 6th European Slag Conference EUROSLAG 2010. 20-22 October 2010, Madrid, Spain. Conference paper in proceedings.

Barca C., Gérente C., Meyer D., Andrès Y., Chazarenc F. *Steel slag produced in Europe as potential filter media for phosphorus removal from wastewater*. 12th International Conference on Wetland Systems for Water Pollution Control. 4-8 October 2010, Venice, Italy, International Water Association (IWA).

Chazarenc F., **Barca C.**, Gérente C., Andrès Y. *The use of an industrial by-product (steel slag) as substrate to treat wastewater*. 12th International Waste Management and Landfill Symposium. 5-9 October 2009, Cagliari, Italy. Conference paper in proceedings.

COMMUNICATIONS DANS DES CONGRES NATIONAUX

Barca C., Scanu D., Podda N., Poizat L., Hennebert P. Mise au point de filtres garnis de résidus de bauxite modifiés destinés au traitement du phosphore au sein des petites stations d'épuration des eaux. 17^{ème} Congrès de la Société Française de Génie des Procédés, 14-17 October 2019, Nantes, France.

Barca C., Martino M., Chazarenc F., Roche N., Hennebert P. Phosphorus recovery from saturated samples of bauxite residue after their use as reactive filter material to treat wastewater. 16^{ème} Congrès de la Société Française de Génie des Procédés, 11-13 Juillet 2017, Nancy, France.

Barca C., Ranava D., Ferrasse J-H., Giudici-Ortoni M-T, Soric A. *Fermentative hydrogen production using a co-culture of C. acetobutylicum and D. vulgaris: an interdisciplinary approach from batch to continuous flow biofilm reactors*. Junior Scientists Microbiology Meeting of Marseille (JSM3), 28-29 May 2015, Marseille, France.

OUVRAGES SCIENTIFIQUES

Chazarenc F., Meyer D., **Barca C.**, Andrès Y., Gérente C., Le Coq L., Reboul M., Troesch S., Esser D., Drissen P., Rustige H., Rex M., Fixaris M. *Using slag as sorbent to remove phosphorus from wastewater. Final report*. RFCS Publications, European Commission, pages 101, Brussels, 2014. ISBN 978-92-79-35036-8 ; DOI : 10.2777/59366

SEMINAIRES INVITES

Cristian Barca. Phosphorus treatment and recovery from wastewater: state of the art and perspectives. Invited seminar, EAN University, Department of Chemical Engineering, Bogotá, Colombia, 12th June 2019.

Cristian Barca. *Reactive filters to upgrade phosphorus removal in small wastewater treatment plants.* Invited seminar, University of Cagliari, Faculty of Engineering, Cagliari, Italy, 12th July 2018.

Cristian Barca. *Réacteurs à biomasse fixée destinés à la production d'hydrogène par fermentation obscure.* Séminaire, Laboratoire IC2MP UMR CNRS 7285, ENSIP, 6 Mai 2015, Poitiers, France.

Cristian Barca. *Steel slag filters to remove phosphorus from wastewater.* Séminaire, Laboratoire Géomatériaux et Environnement (LGE), Université Paris-Est Marne-La-Vallée, 12 Février 2013, Champs sur Marne, Paris, France.