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PH.D EN INGENIERIA QUIMICA CHEMICAL ENGINEERING DEPARTMENT, IMPERIAL COLLEGE,
UNIVERSITY OF LONDON, LONDRES, 1982, INGLATERRA

LÍNEA(S) DE INVESTIGACIÓN O ÁREAS DE TRABAJO

✓ INGENIERÍA QUÍMICA Y AMBIENTAL

LISTADO DE PUBLICACIONES EN LOS ÚLTIMOS 10 AÑOS.

Salazar, C.; Sires, I.; Zaror, C.; Brillas, E. "Treatment of a Mixture of Chloromethoxyphenols in Hypochlorite Medium by Electrochemical AOPs as an Alternative for the Remediation of Pulp and Paper Mill Process Waters". **Electrocatalysis**. **4**, 212-223 (2013)

Miranda, C.; Yáñez, J.; Contreras, D.; Zaror, C.; Mansilla, H. "Phenylmercury degradation by heterogeneous photocatalysis assisted by UV-A light" **Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering**. **48**, 1642–1648 (Ago. 2013) (ISI)

Zaror, C. "Eficiencia Energética y Producción Limpia". **Producción Limpia (Consejo de Producción Limpia) no.11**, 12-15 (2012)

Salazar C., CA. Zaror, MA.Mondaca, P.González, H.Mansilla, C.Peña. "Advanced Electrochemical Oxidation of Ultrafiltration Permeates from Cellulose Bleaching Effluents" **Journal of Advanced Oxidation Technologies** **15(2)**, 254-265 (2012) (ISI)

Alejandro S., Valdés H., M.-H. Manero, Zaror C.A. "BTX abatement using natural zeolite: the role of Brønsted acid sites". **Water Science & Technology** **66(8)**, 1759-1765. (2012). (ISI)

Valdés, H.; Tardón, R., C. A. Zaror "Methylene blue removal from contaminated waters using heterogeneous catalytic ozonation promoted by natural zeolite: mechanism and kinetic approach". **Environmental Technology**. **33(16-18)**:1895-1903. (2012). (ISI)

Valdés, H; Alejandro, S.; C A. Zaror. "Natural zeolite reactivity towards ozone: The role of compensating cations". **Journal of Hazardous Materials** **227– 228** 34– 40 (2012) (ISI)

Valdés, H.; Tardón, R., C. A. Zaror. "Role of surface hydroxyl groups of acid-treated natural zeolite on the heterogeneous catalytic ozonation of methylene blue contaminated waters". **Chemical Engineering Journal**. **211-212**, 388-395 (2012). (ISI)

Valdes H., Godoy H., Zaror C. "Influence of Volcanic Sand Hydroxyl Groups on the Heterogeneous Catalytic Ozonation of Methylene Blue Contaminated Waters". **J. Adv. Oxid. Technol.** **15(2)**, 266-276 (2012)

Carvallo J., Labbe M., Pérez-Correa J.R., Zaror C., Wisniak J., "Modelling methanol recovery in wine distillation stills with packing columns". **Food Control** **22**, 1322-1332 (2011)

Valdés, H.; Padilla, E. and C. A. Zaror. "Influence of chemical surface characteristics of natural zeolite on catalytic ozone abatement". **Ozone Science & Engineering**, **33**, 279–284 (2011) (ISI)

Alejandro, S.; Valdés, H. and C. A. Zaror. "Natural zeolite reactivity towards ozone: the role of acid surface sites". **J. Adv. Oxid. Technol.** **14(2)**, 182-189 (2011) (ISI)

C. Zaror, C. Salazar, E. A. Araneda, M. A. Mondaca, H.D. Mansilla, C. Peña. "Electrochemical Treatment of Segregated Effluents from the D-Stage in ECF Kraft Cellulose Bleaching" **J. Adv. Oxid. Technol.** **14(1)**, 47-53 (2011) (ISI)

Campos V.L., Valenzuela Yarza P., Kämpfer P., Vidal R., Zaror C., Mondaca M.A., Lopez-Lopez A., Roselló-Mora R. "*Pseudomonas arsenicoxydans* sp nov., an arsenite-oxidizing strain isolated from the Atacama desert". **Systematic and Applied Microbiology.** **33**. pp 193-197 (2010) (ISI)

Campos V.L., C. León, M.A. Mondaca, J. Yañez, C. Zaror, "Arsenic Mobilization by Epilithic Bacterial Communities Associated with Volcanic Rocks from Camarones River, Atacama Desert, Northern Chile. **Arch. Environ. Contam. Toxicol.** DOI 10.1007/s00244-010-9601-7 (2010) (ISI)

Valdes H., Tardon R., Zaror C. "Effect of Zeolite Chemical Surface Properties on Catalytic Ozonation of Methylene Blue Contaminated Waters". **Ozone: Science & Engineering**, **32**: 344–348 (2010) (ISI)

Zaror C., C. Segura, H. Mansilla, M.A. Mondaca, P. Gonzalez. "Kinetic study of Imidacloprid removal by advanced oxidation based on photo-Fenton process". **Environmental Technology.** **31(13)** 1411-1416 (2010) (ISI)

Valdes H., H.P.Godoy, C.A. Zaror "Heterogeneous catalytic ozonation of cationic dyes using volcanic sand". **Water Science and Technology.** **61(12)**, pp 2973-2978 (2010) (ISI)

Valdés H., R. F. Tardón, C. A. Zaror, "Methylene blue removal from contaminated waters using O₃, natural zeolite, and O₃/zeolite". **Water Science and Technology.** **60(6)**, 1419-1424 (2009) (ISI)

Valdés, H.; Farfán, Víctor J; Manoli, J.A; Zaror, C.A., "Catalytic ozone aqueous decomposition promoted by natural zeolite and volcanic sand" **Journal of Hazardous Materials.** **165** (1-3), 915-22. (2009) (ISI)

Valenzuela C., Campos V.L., Yañez J., Zaror C., Mondaca M.A. "Isolation of Arsenite-Oxidizing Bacteria from Arsenic-Enriched Sediments from Camarones River in Northern Chile". **Bulletin of Environmental Contamination and Toxicology.** **82**. pp 593-596 (2009) (ISI)

C.A. Zaror, C. Segura, H. Mansilla, M. A. Mondaca, P. González "Detoxification of Waste Water Contaminated with Imidacloprid using Homogeneous and Heterogeneous Photo-Fenton Processes" **Water Practice & Technology** (© IWA Publishing 2009. ISSN Online: 1751-231X doi:10.2166/wpt.2009.010) **4(1)** (2009).

Campos V.L., G. Escalante, J. Yañez, C.A. Zaror, M.A. Mondaca. "Isolation of arsenite-oxidizing bacteria from a natural biofilm associated to volcanic rocks of Atacama Desert, Chile". **Journal of Basic Microbiology.** **49**,. 1-5 (2009) (ISI)

C. Zaror, C. Segura, H. Mansilla, M. A. Mondaca and P. González "Effect of temperature on Imidacloprid oxidation by homogeneous photo-Fenton processes". **Water Science and Technology** **58(1)**, 259-265 (2008) (ISI)

Segura C., Zaror C., Mansilla H., Mondaca M.A. "Imidacloprid Oxidation by Photo Fenton Reaction" **Journal of Hazardous Materials** **150**, pp 679-686 (2008) (ISI)

Valdes, F.A. Murillo, J.A. Manoli, C.A. Zaror "Heterogeneous catalytic ozonation of benzothiazole aqueous solution promoted by volcanic sand". **Journal of Hazardous Materials** **153**, 1036-1042 (2008) (ISI)

Gomez C., J Rodriguez, C. Lizama, J. Freer, C. Zaror, H.D. Mansilla. "Coupling of Photocatalytic and Biological Reactors to Remove EDTA from Aqueous Solutions" **Environmental Technology** **28**, pp 323-327 (2007) (ISI)

Baeza C., C. Oviedo, C. Zaror, J. Rodriguez, J. Freer. "Degradation of EDTA in a Total Chlorine Free Cellulose Pulp Bleaching Effluent by UV/H₂O₂ Treatment". **J. Chil. Chem. Soc.** **52**(1), pp 1069-1072 (2007) (ISI)

Reyes C., J. Fernandez, J. Freer, M.A. Mondaca, C. Zaror, S. Malato, H.D. Mansilla, "Degradation and inactivation of tetracycline by TiO₂ photocatalysis". **Journal of Photochemistry and Photobiology. A:Chemistry.** **184** (1-2), 141-146 (2006) (ISI)

Peric I., V. Campos, M.A. Mondaca, R. Moraga, C. Zaror (2006). "Evidencial chromate bioreduction by capillary zone electrophoresis" **J. Chil. Chem Soc.** **51**(4), 1030-1033 (ISI)

Valdés H., C.A. Zaror. "Ozonation of benzothiazole saturated-activated carbons: influence of carbon chemical surface properties" **Journal of Hazardous Materials B**, **137**, pp 1042-1048 (2006) (ISI)

Valdés H., C.A. Zaror. "Heterogeneous and homogeneous catalytic ozonation of benzothiazole promoted by activated carbon: Kinetic approach", **Chemosphere** **65**(7) pp 1131-1136 (2006) (ISI)

Chirinos L., N.L. Rose, R. Urrutia, P. Muñoz, F. Torrejón, L. Torres, F. Cruces, A. Araneda and C. Zaror "Environmental evidence of fossil fuel pollution in Laguna Chica de San Pedro lake sediments (Central Chile)". **Environmental Pollution**, **141**(2); pp 247-256 (2006) (ISI)

Karrasch E., O. Parra, H. Cid, M. Mehrens, P. Pacheco, R. Urrutia, C. Valdovinos, C. Zaror "Effects of pulp and paper mill effluents on the microplankton and microbial self-purification capabilities of the Biobio River, Chile". **Science of the Total Environment** **359**. pp 194– 208 (2006) (ISI)

Celis, J.E. R. G. Flocchini, O. F. Carvacho, J. R. Morales, C. A. Zaror, J.C. Inzunza, M.J. Pineda. "Analysis of Aerosol Particles and Coarse Particulate Matter Concentrations in Chillán", Chile, 2001–2003" **J. Air & Waste Management Association**, **56**, pp 152–158 (2006) (ISI)

Campos, V L; Veas, J; Zaror, C A; Mondaca, M A. "Monitoring phenolic compounds during biological treatment of Kraft pulp mill effluent using bacterial biosensors" **Bulletin of environmental contamination and toxicology**; **3 77**:383-90 (2006) (ISI)

Valdés H., C.A. Zaror "Advanced treatment of benzothiazole contaminated waters: comparison of O₃, AC, and O₃/AC processes" **Water Science and Technology** **52**(10-11), pp 281-288 (2005) (ISI)

Chirinos L.R., Urrutia R., Fagel N., Bertrand S., Gamboa N., Araneda A., Zaror C. *"Chemical profiles in lake sediments in Laguna Chica de San Pedro (Bio Bio Region, Chile)"*. **J. Chil. Chem. Soc.** **50(4)**, 697-710 (2005) (ISI).

Campos V.L., R. Moraga, J. Yáñez, C.Zaror, M.A. Mondaca *"Chromate reduction by Serratia marcescens isolated from tannery effluents"*, **Bull. Environ. Contam. Toxicol.** **75**, 400-406 (2005) (ISI)

Baudel H.M., Abreu C.A., Zaror C.A.: *"Xylitol production via catalytic hydrogenation of sugarcane bagasse dissolving pulp liquid effluents over Ru/C catalyst"*. **J.Chem.Technol. Biotechnol.** **80(2)**, 230-233. (2005) (ISI).

Baudel H.M., Zaror C.A., Abreu C.A. *"Improving the value of sugarcane bagasse wastes via integrated chemical production systems: an environmentally friendly approach"*. **Ind. Crop Prod.** **21(3)**, 309-315 (2005) (ISI)

Petit-Breuilth X.P., Zaror C.A., Melo R. *"Hexenuronic acid removal from unbleached Eucalyptus pulp by peroxymonosulfuric acid"* **J. Chil. Chem. Soc.** **49 (3)**, 197-202 (2004)

Campos V.L., C.A. Zaror, M.A. Mondaca *"Detection of Chlorinated Phenols in kraft pulp bleaching effluents using DmpR Mutant Strains"*, **Bull. Environ. Contam. Toxicol.** **73**, 666-673 (2004)

Celis, J., Morales, J., Zaror, C., Inzunza, J. *"A study of the particulate matter pm10 composition in the atmosphere of Chillan, Chile"*. **Chemosphere** **54 (4)**: 541-550 (2004) (ISI)

Valdés, H.; Zaror, C.A. *"Effect of Activated Carbon Chemical Surface Properties on the Adsorption Mechanism of Benzothiazoles"*. **Water and Environment Management Series: Young Researchers 2004. Edited by Piet Lens and Richard Stuetz.**195-202, (2004).

P. González, C. Zaror, V. Carrasco, M.A. Mondaca, H. Mansilla. *"Combined physical-chemical and biological treatment of poorly biodegradable industrial effluents"*. **Journal of Environmental Science and Health (Part A)** **38(10)**, 2201-2208 (2003) (ISI)

H. Valdés, C.A. Zaror, M. Jekel. *"Kinetic study of reactions between ozone and benzothiazole in water"* **Water Science and Technology** **48(11-12)**, pp 505-510 (2003) (ISI)

J. Célis, R. Morales, C. Zaror, J. Inzunza, R. Flocchini, O. Carvacho. *"Chemical characterisation of the inhalable particulate matter in the city of Chillan, Chile"*. **Journal of the Chilean Chemical Society** **48(2)**, 49-55 (2003) (ISI)

H. Valdés, M. Sánchez-Polo, C.A. Zaror *"Effect of ozonation on the activated carbon surface chemical properties and on 2-mercaptobenzothiazole adsorption"*. **Latin American Applied Research** **33**, 129-133 (2003) (ISI)

LISTADO DE PROYECTOS DE INVESTIGACIÓN EN LOS ÚLTIMOS 10 AÑOS

- ✓ FONDECYT 1100738. (2010-2014)

Water and Chemicals Recovery from Segregated Kraft Cellulose Bleaching Effluents Using Membrane Separation and Advanced Electrooxidation Processes". Investigador Responsable

- ✓ FONDEF D09I1188. (2011-2013)

"Declaración ambiental de productos certificada, ISO 14.025, para el cobre y productos del cobre en Chile" CIMM-Universidad de Concepción.

Director

- ✓ UNEP. (2010-2011)

"Life Cycle Inventory of Electricity production in Latinamerica". United Nations Environmental Program.

- ✓ FONDECYT 1110641 (2011-2013)

Coinvestigador

"Oxidation of organic matter and simultaneous reduction of metal in organometallic compounds by advanced redox processes".

- ✓ FONDECYT 1090182. (2009-2012)

Coinvestigador

Heterogeneous catalytic gas phase ozonation of VOCs using Chilean zeolite at low temperature".

- ✓ FONDECYT 1060304 (2006-2009)

CoInvestigador

"Ozonización catalítica de compuestos orgánicos tóxicos promovida por arenas volcánicas" Centro Científico de Excelencia

- ✓ Unidad de Desarrollo Tecnológico Basal CONICYT. PFB-27 Investigador. 2008 2013

- ✓ Diuc 208.036.035-1.0. (2008-2010)

Co-Investigador

"Bio-Obtención de Nanopartículas de Selenio, Utilizando Bacterias Reductoras de Origen Natural"

- ✓ Innova Chile. 07-CN13 IFM-208. (2008 2011).

CoInvestigador

"Evaluación económica, ambiental y social del uso racional y sustentable de la biomasa forestal de la región de Aysén".

- ✓ FONDEF D06I1060. CIMM-Universidad de Concepción. (2008-2010)

Director Alterno

"Sistema de Evaluación de Ciclo de Vida de la Producción Primaria de Cobre: bases de datos LCI de referencia y modelos parametrizables".

- ✓ FONDECYT 1060892. (2006-2009)

Investigador Responsable

"Modelación y optimización de un sistema de tratamiento de efluentes en base a proceso foto-Fenton heterogéneo, en serie con tratamiento biológico aeróbico, para depurar pesticidas residuales".

- ✓ Conicyt/BMBF nº 094-4-2006. (2006-2008)

Investigador Responsable.

"Evaluación de las alternativas de uso de biomasa como fuente de energía. Una perspectiva desde el análisis del ciclo de vida".

- ✓ FONDECYT 1050088. (2005-2008)

Coinvestigador

"Eliminación del arsénico presente en aguas contaminadas, mediante un bioreactor con bacterias as-oxidantes inmovilizadas, aisladas desde ambientes naturales con altos niveles de compuestos arsenicales"

- ✓ FONDECYT 1040460 (2004-2007).

Coinvestigador

"Degradación oxidativa en antibióticos mediante fotocatalisis solar".

- ✓ FONDECYT 1010881. 2001-2004

Uso combinado de ozono y carbón activado para incrementar la biodegradabilidad de efluentes complejos derivados del blanqueo de celulosa kraft.. Investigador Responsable.

- ✓ FONDECYT 1010854. 2001-2004.

Coinvestigador.

Oxidación fotocatalizada de colorantes reactivos: optimización mediante análisis multivariado. (Inv. Principal: H. Mansilla).

- ✓ FONDEF D00I1135. 2001 – 2004.

Director Alterno

Desarrollo de un Modelo la Calidad del Agua en Ríos para la Evaluación de los Efectos de los Efluentes y de las Modificaciones en el Caudal.