Fernando G. Fermoso
Tenured Scientist

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Expertise

Fernando G. Fermoso has been working in anaerobic and aerobic wastewater technologies more than 10 years. He has spent year and a half as postgraduate researcher in Spain (Universidad de Santiago de Compostela), 4 years as a PhD student in the Netherlands (Wageningen Universiteit) funded by a Marie Curie project (Marie Curie Excellence Team: Novel Biological Engineering Processes for Heavy Removal and Recovery) and more than 2 years as a Post-Doctoral researcher in the Netherlands (Wageningen Universiteit and Deltares) and Spain (Instituto de la Grasa). Since 2012 he holds a permanent scientist position in the Spanish Research Council (CSIC). During this time, he acquired broad expertise in biotechnologies for energy production (from wastewaters, solid waste and energy crops) and aerobic and anaerobic wastewater technologies. He also acquired numerous research skills such as using advanced experimental tools and bioreactor technology and operation of lab-scale bioreactors in general.

Key papers related to the COST action

1. Zandvoort, M. M.; van Hullebusch, E. D.; **Fermoso, F. G.**; Lens, P. (2006) "Trace metals in anaerobic granular sludge reactors: bioavailability and dosing strategies". Engineering in Life Sciences, 6, (3), 293-301
2. Van der Veen, A.; **Fermoso, F. G.**; Lens, P. (2007) " Bonding form analysis of metals and sulfur fractionation in methanol-grown anaerobic granular sludge" Engineering in Life Science, 7, (5), 480-489
3. **Fermoso, F. G.**; Collins, G.; Bartacek, J.; O'Flaherty, V.; Lens, P. (2008). "Acidification of methanol-fed anaerobic granular sludge bioreactors by cobalt deprivation: Induction and microbial community dynamics" Biotechnology and Bioengineering 99, (1), 49-58
4. **Fermoso, F. G.**; Collins, G.; Bartacek, J.; O'Flaherty, V.; Lens, P. (2008) "Role of nickel in high rate methanol degradation in anaerobic granular sludge bioreactors" Biodegradation. 19 (5), 725-737
5. **Fermoso, F. G.**; Collins, G.; Bartacek, J.; Lens, P., (2008) "Zinc deprivation of methanol fed anaerobic granular sludge bioreactors". Journal of Industrial Microbiology & Biotechnology. 35 (6), 543-557
6. **Fermoso, F. G.**; Bartacek, J.; Chung, L. C.; Lens, P. (2008) "Supplementation of cobalt to UASB reactors by pulse dosing: $CoCl_2$ versus $CoEDTA^{2-}$ pulses**"** Biochemical Engineering Journal. 42 (2), 111-119
7. Bartacek, J.; **Fermoso, F. G.**; Baldo-Urrutia, A. M.; van Hullebusch, E. D.; Lens, P. (2008) "Cobalt Toxicity in Anaerobic Granular Sludge: Influence of Chemical Speciation". Journal of Industrial Microbiology & Biotechnology. 35 (11), 1465-1474
8. **Fermoso, F. G.**; Bartacek, J.; Jansen, S.; Lens, P. (2009) "Metal supplementation to UASB bioreactors: from cell-metal interactions to full-scale application". Science of the Total Environment. 407, 3652 – 3667
9. **Fermoso, F. G.**; Bartacek, J.; Manzano, R.; Van Leeuwen, H; Lens, P. (2010) "Dosing of anaerobic granular sludge bioreactors with cobalt: Impact of cobalt retention on methanogenic activity". Bioresource Technology. 101, 9429 - 9437
10. Worm, P.; **Fermoso, F. G.;** Lens, P.; Plugge, C.M. (2011) "Transcription of fdh and hyd in Syntrophobacter spp. and Methanospirillum spp. in anaerobic granular sludge deprived of molybdenum, tungsten and selenium". Environmental Microbiology. 13,1228 - 1235
11. Bartacek, J., **Fermoso, F.G.**, Vergeldt, F., Gerkema, E., Maca, J., Van As, H., Lens, P.N.L. (2012) "The impact of metal transport processes on bioavailability of free and complex metal ions in methanogenic granular sludge". Water science and Technology. 65, 1875 – 1881