

Contact Data

Name : **Francesc Xavier Prenafeta Boldú**
Professional address : IRTA – GIRO; Torre Marimon, E-08140 Caldes de Montbui, Barcelona, Spain
E. Mail address : francesc.prenafeta@irta.cat
Phone nr. : +34 938654350 (cell: +34 677182389) **Fax nr.** : +34 938650954

Current position

Institute : Institut de Recerca i Tecnologia Agroalimentàries (IRTA) **Centre** : Torre Marimon
Programme : Integral Management of Organic Wastes (GIRO) **Web page** : www.giroct.net/
Keywords : Environmental biotechnology, microbial ecology, applied mycology **UNESCO codes** : 330807, 241406
Work category : Researcher **Type of contract** : Permanent

Academic Data

In progress : *MSc on Bioinformatics and Biostatistics*, Open University of Catalonia, Barcelona, Spain
 10/12/2002 : *PhD in Environmental Technology*, Wageningen University, The Netherlands
 18/12/1997 : *Agronomical Engineer, specialization in Environmental Sciences (MSc)*, University of Lleida, Spain
 31/01/1995 : *Technical Agronomical Engineer (BSc)*, University of Lleida, Spain

Work Experience

05/2010 – Current : Researcher at IRTA, Barcelona, Spain
 05/2005 – 04/2010 : Postdoc researcher (INIA program) and Unit Coordinator at IRTA, Barcelona, Spain
 04/2002 – 03/2005 : Postdoc researcher at the Fungal Biodiversity Centre (CBS-KNAW), Utrecht, The Netherlands
 02/1998 – 03/2002 : PhD researcher at the Wageningen University and the TNO-MEP, Appeldoorn, The Netherlands
 02/1998 – 03/2002 : Agrotechnology & Food Innovations (ATO-DLO), Wageningen University & Research Centrum
 10/1996 – 05/1997 : Predoctoral researcher at the Wageningen University, The Netherlands

Participation in publicly funded competitive research projects

01/2012 – 12/2014 : *Advanced microbial QUALity monitoring and hygienization TECHniques for Secure water Trading - AQUATEST* (INDIGO-DST1-012). Funded by the European Commission, New Indigo ERA-NET program. Budget: 220,000€
 01/2011 – 12/2013 : *Tratamiento anaerobio avanzado para substratos con alto contenido en lípidos y proteínas - ADAMOX* (CTM2010-18212). Funded by the Ministerio de Ciencia e Innovación, Spain. Budget: 140,000€
 01/2009 – 01/2010 : *Desarrollo de sistemas sostenibles de producción y uso de biogás agroindustrial en España - PROBIOGAS*, Sub-project 14: *Interrelaciones entre poblaciones microbianas y los parámetros de operación en digestores anaerobios* (PSE-120000-2009-24). Funded by the Ministerio de Ciencia e Innovación, Spain. Budget: 92,100€
 01/2009 – 01/2010 : *Seguiment i control d'una instal·lació de tractament de l'efluent del biogàs* (IEINN09-1-0180). Funded by ACC1Ó, Generalitat de Catalunya, program Innoempresa 2009, Catalonia, Spain. Budget: 35,994€
 01/2010 – 01/2012 : *Dinámica del nitrógeno en celdas microbianas de combustible funcionando con purines porcinos* (CTM2009-12632). Funded by Ministerio de Ciencia e Innovación, Spain. Budget: 213,000€
 01/2009 – 01/2010 : *Aplicación de la micorremediación para la biodegradación de HAPs de elevado peso molecular en suelos contaminados por hidrocarburos* (A/017187/08, renovation). Funded by Agencia Española de Cooperación internacional y Desarrollo AECID, Spain. Budget: 20,000€
 01/2008 – 01/2009 : *Aplicación de la micorremediación para la biodegradación de HAPs de elevado peso molecular en suelos contaminados por hidrocarburos* (A/017187/07). Funded by Agencia Española de Cooperación internacional y Desarrollo AECID, Spain. Budget: 23,000€
 10/2007 – 09/2010 : *Optimización de la digestión anaerobia de grasas de origen animal (OPA_LAP)* (ENE2007-65850). Funded by the Ministerio de Educación y Ciencia. Budget: 105,000€
 01/2007 – 01/2009 : *Evolution of virulence in chaetothyrialean black yeasts: between pathology and bioremediation* (OPC 4.01.06). Funded by KNAW and Chinese Academy of Sciences, The Netherlands and The Peoples' Republic of China.
 11/2006 – 10/2007 : *Desarrollo de un simulador numérico del proceso de compostaje, y aplicación a la optimización del compostaje de lodos y mezclas con otros residuos orgánicos* (185/2006/3-4.3). Funded by the Ministerio de Medio Ambiente, Spain. Budget: 58,394€
 10/2006 – 09/2009 : *La biofiltración de compuestos volátiles provenientes de la actividad ganadera: aspectos microbiológicos y su modelización* (CTM2006-07976). Funded by the Ministerio de Educación y Ciencia, Spain. Budget: 102,000€
 01/2003 – 01/2006 : *Assimilation of toxic degradation products from lignin and oils by black yeast-like fungi* (OPC 4.01.13). Funded by the Koninklijke Nederlandse Akademie van Wetenschappen – KNAW, The Netherlands.
 04/2001 – 03/2005 : *Fungal bacterial interactions during degradation of recalcitrant organic matter* (OPC 4.01.14). Funded by the Koninklijke Nederlandse Akademie van Wetenschappen - KNAW (Vernieuwingsfonds). Budget: 150,000€
 07/1997 – 12/2002 : *Recently discovered fungi in the biotechnological removal of aromatic pollutants* (BIO4-CT97-2295). Funded by the European Commission. Budget: 834,000€
 03/1997 – 03/2000 : *On-line monitor and control system for process water in closed-culture growing systems in greenhouses (Hydrion-line Project)* (EETK96083). Funded by the Dutch Ministry of Economic Affairs, SenterNovem.
 10/1996 – 08/1999 : *Closing the water cycle in the textile industry* (EETK97007). Funded by the Dutch Ministry of Economic Affairs, SenterNovem.

Scientific Publications

a) Publications in indexed journals (ISI)

Number of accepted scientific papers : 21

Total number of citations : 378

H-index : 10

b) Other publications

Nr of books : 1

Edited books : 2

Book chapters : 7

Conference proceedings with ISBN : 10

c) PhD Dissertation

Prenafeta-Boldú FX, 2002. *Growth of fungi on volatile aromatic hydrocarbons: Environmental technology perspectives*. Universal Press, Veenendaal, 115 pp. ISBN 9058087476. Supervisor: Prof. Wim Rulkens, Subdep. of Environmental Technology, University of Wageningen

d) Relevant publications in indexed journals (last 10 years)

1. Prenafeta-Boldú FX, Guivernau M, Gallastegui G, Viñas M, de Hoog GS, Elías A, 2012. Fungal/bacterial interactions during the biodegradation of TEX hydrocarbons (toluene, ethylbenzene and p-xylene) in gas biofilters operated under xerophilic conditions. *FEMS Microbiology Ecology* (In press)
2. Prenafeta-Boldú FX, Ortega O, Arimany M, Canalias F, 2012. Assessment of process limiting factors during the biofiltration of odorous VOCs in a full-scale composting plant. *Compost Science and Utilization* (In press)
3. Rojo N, Muñoz R, Gallastegui G, Barona A, Gurtubay L, Prenafeta-Boldú FX, Elías A, 2012. Carbon disulfide biofiltration: Influence of the accumulation of biodegradation products on biomass development. *Journal of Chemical Technology and Biotechnology* (In press)
4. Illa J, Prenafeta-Boldú FX, Bonmatí A, Flotats X, 2012. Empirical characterisation and mathematical modelling of settlement in composting batch reactors. *Bioresource Technology* 104:451- 458
5. Badali H, Prenafeta-Boldú FX, Guarro J, Klaassen CH, Meis JF, de Hoog GS, *Cladophialophora psammophila*, a novel species of *Chaetothyriales* with a potential use in the bioremediation of volatile aromatic hydrocarbons. *Fungal Biology* (In Press)
6. Seyedmousavi S, Badali H, Chlebicki A, Zhao J, Prenafeta-Boldú FX, de Hoog GS, *Exophiala sideris*, a novel black yeast isolated from environments polluted with toxic alkyl benzenes and arsenic. *Fungal Biology* (In Press)
7. Zhao J, Zeng J, de Hoog G, Attili-Angelis D, Prenafeta-Boldú FX, 2010. Isolation and identification of black yeasts by enrichment on atmospheres of monoaromatic hydrocarbons. *Microbial Ecology* 60, 149-156
8. Palatsi J, Illa J, Prenafeta-Boldú FX, Laureni M, Fernandez B, Angelidaki I, Flotats X, 2010. Long-chain fatty acids inhibition and adaptation process in anaerobic thermophilic digestion: Batch tests, microbial community structure and mathematical modelling. *Bioresource Technology* 101, 2243-2251
9. Magrí A, Guivernau M, Baquerizo G, Viñas M, Prenafeta-Boldú FX, Flotats X, 2009. Batch treatment of liquid fraction of pig slurry by intermittent aeration: process simulation and microbial community analysis. *Journal of Chemical Technology & Biotechnology* 84, 1202-1210
10. Prenafeta-Boldú FX, Illa J, van Groenestijn JW, Flotats X, 2008. Influence of synthetic packing materials on the gas dispersion and biodegradation kinetics in fungal air biofilters. *Applied Microbiology and Biotechnology* 79, 319-327
11. Sole-Mauri F, Illa J, Magrí A, Prenafeta-Boldú FX, Flotats X, 2007. An integrated biochemical and physical model for the composting process. *Bioresource Technology* 98, 3278
12. Prenafeta-Boldú FX, Summerbell R, de Hoog GS, 2006. Fungi growing on aromatic hydrocarbons: biotechnology's unexpected encounter with biohazard? *FEMS Microbiology Reviews* 30, 109-130
13. Tan NCG, van Leeuwen A, van Voorthuizen EM, Slenders P, Prenafeta-Boldú FX, Temmink H, Lettinga G, Field JA, 2005. Fate and biodegradability of sulfonated aromatic amines. *Biodegradation* 16, 527-537
14. Prenafeta-Boldú FX, Ballerstedt H, Gerritse J, Grotenhuis JTC, 2004. Bioremediation of BTEX hydrocarbons: Effect of soil inoculation with the toluene-growing fungus *Cladophialophora* sp. strain T1. *Biodegradation* 15, 59-65
15. Luykx DMA, Prenafeta Boldú FX, de Bont JAM, 2003. Toluene monooxygenase from the fungus *Cladosporium sphaerospermum*. *Biochemical and Biophysical Research Communications* 312, 373-379
16. Prenafeta-Boldú FX, Vervoort J, Grotenhuis JTC, van Groenestijn JW, 2002. Substrate interactions during the biodegradation of benzene, toluene, ethylbenzene, and xylene (BTEX) hydrocarbons by the fungus *Cladophialophora* sp. strain T1. *Applied and Environmental Microbiology* 68, 2660-2665

Other activities**e) Participation in conferences and meetings**

International Congress and workshops with evaluation by a scientific committee:	oral communication: 13	poster: 15
National Congress and workshops with evaluation by a scientific committee:	oral communication: 10	poster: 9

h) Scientific reviewer

Journals: *Acta Biotechnologica*, *Advanced Science Letters (ASL)*, *Biochemical and Bioengineering Journal*, *Environmental Science and Pollution Research*, *FEMS Microbiology Ecology*, *FEMS Yeast Research*, *Fungal Biology*, *Nova Hedwigia*, *Studies in Mycology*, *Waste Management*

Institutions: *Agencia Andaluza de Evaluación*, *Agencia Nacional de Evaluación y prospectiva (ANEP)*, *The Netherlands Organization for Scientific Research (NWO)*, *United Nations (Fifth Global Environment Outlook - GEO-5)*, *Katerva Awards*

k) Merits and honors

- Best poster award (with oral presentation) during the 3rd International Congress on Biotechniques for Air Pollution Control, Delft, The Netherlands (28-30/09/09)
- Best poster award during the *II Congreso de Microbiología Industrial y Biotecnología Microbiana (CMIBM2010)*, Madrid (17-19/11/10)
- Scientific article selected and evaluated by the Faculty of 1000 - Post Publication Peer Review (<http://f1000.com/1006720>), 06/2002
- Invited keynote speaker in international conferences and symposia: 2 (Italy and Brazil)
- Invited member of scientific committees in national and international conferences and symposia: 3 (Spain and Brazil)

k) Academic teaching

- Accreditation as Associate University Professor by the *Agència per a la Qualitat del Sistema Universitari de Catalunya (AQU)*
- MSc degree lecturer at the *Universitat de Barcelona*, *Universitat Politècnica de Barcelona*, *Universitat de Lleida*, *Universidad Miguel Hernández de Elche* (Spain), *Universidade Estadual Paulista* (Brazil), and the *Wageningen University* (The Netherlands)