

Curriculum Vitae

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Senior Research Fellow

Microbiology Laboratory

Instituto de Biologia Experimental e Tecnológica

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Curriculum vitae

October 2012

1. Personal data

Name: Maria Teresa Ferreira de Oliveira Barreto Goulão Crespo
Date of birth: 10th November 1959
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2. Academic qualifications

1982 Degree in Biology, Faculdade de Ciências, Universidade de Lisboa
1986 Conclusion of the academic part of the Master degree in Biochemical Engineering - Instituto Superior Técnico, Universidade Técnica de Lisboa.
1992 PhD in Biological Engineering, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa.

3. Academic and technical formation

1986 Institut du Génie Chimique Toulouse, France (with Prof. Dr. Jean Pierre Riba), "Hydrodynamics of fluidized systems". Duration: 3 months.
1987 Microbiology Department, Colorado State University, Fort Collins, USA (with Prof. Dr. Robert Tengerdy), "Production of lactic acid starter cultures in fluidized system". Duration: 3 months.
1990 Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH (DSMZ), Braunschweig, Germany (with Dr. Norbert Weiss), "Identification of lactic acid bacteria". Duration: 2 months.
1997 Pos-Doc grant, PRAXIS XXI/BPD/9915/96, Centre for Extremophile Research, University of Bath, UK, "Identification and characterization of thermophilic bacteria by classical and molecular biology methods". Duration: 6 months.

4. Professional activity

1983/1984 Teaching of Biology 12^o year, Escola Secundária dos Olivais-Chelas
1984/1990 Teaching Assistant, Escola Superior de Biotecnologia, Universidade Católica, Porto
1990/(...) Researcher of Instituto de Biologia Experimental e Tecnológica (IBET), Oeiras

1998/2006	Deputy-Director of Microbiology Laboratory of the Good Laboratory Practices Unit of IBET (recognized as working under GLP according to OECD by INFARMED and Instituto Português da Qualidade)
2006/2008	Director of the Good Laboratory Practices Unit of IBET and ITQB (recognized as working under GLP according to OECD by INFARMED and Instituto Português da Qualidade)
2008/(...)	Director of the Analytical Services Unit, ASU of IBET and ITQB (formerly denominated Good Laboratory Practices Unit) (recognized as working under GLP according to OECD by INFARMED)

Actividades in IBET/ITQB

1992/(...)	Responsible for the Microbiology Laboratory of IBET
1996/1998	Responsible for the implementation and direction of Cleaning Rooms of ITQB II
1995/2003	Member of the Safety Committee of ITQB
1996/1998	Implementation of the quality system in the Microbiology Laboratory of the Good Laboratory Practices Unit of IBET to be recognized as working under GLP according to OECD by INFARMED and Instituto Português da Qualidade
1999/1999	Study Director of the GLP Study "In vitro antiproliferation assay for CIFN by 3H-thymidine uptake in UT-7-EPO cells" performed with Amgen, USA
2003/2006	Member of the Scientific Advisory Committee of ITQB
2003/2010	Member of the Safety Floor Coordination Committee of ITQB
2003/2010	Floor coordinator of the 5th floor of ITQB II
2006/2009	Member of the Scientific Council Coordinating Commission of ITQB
2007/(...)	Member of Infrastructures Commission of ITQB

5. Pedagogic activity

1983/1984	Teaching of Biology 12 ^o year, Escola Secundária dos Olivais-Chelas
1984/1990	Teaching Assistant, Escola Superior de Biotecnologia, Universidade Católica, Porto
2004/2005	Transgenic Food: evaluation, identification and labeling. Post-Graduation in Food Safety, Faculdade de Engenharia, ESB/UCP, Sintra
2003/2004/2006	Microbial Biotechnology. Master in Nature Management and Biodiversity, Faculdade de Ciências, Universidade de Lisboa
2008	Good Laboratory Practices. III Master in Regulation and Medicines Evaluation and Health Products, Faculdade de Farmácia, Universidade de Lisboa
2008	Laboratory Quality Management Systems and Standard ISO 17025. Faculdade de Farmácia, III Master in Regulation and Medicines Evaluation and Health Products, Faculdade de Farmácia, Universidade de Lisboa
2007/2012	Good Laboratory Practices. ITQB PhD Programme, ITQB, Universidade Nova de Lisboa
2009	Good Laboratory Practices in a Microbiology Laboratory. Course Food Microbial Analysis, Faculdade de Medicina Veterinária, Universidade Técnica de Lisboa
2004/8/10/12	Transgenic foods. Master in Quality Control and Food Toxicology, Faculdade de Farmácia, Universidade de Lisboa

6. Professional Societies

- Member of the Portuguese Society for Microbiology.

7. Scientific and technical activity

7.1 Research interests

The main research interest of MT Crespo is microbiology, in particular bacteriology, related to food, environment and health. The dynamics of growth, survival and biochemical activity of microorganisms in these environments is integrated in microbial and molecular biology tasks which are expected to evaluate which are the members of the microbial communities present, its dynamics and biochemical activity along the production/growth process. Study cases of interest along the years were: traditional food products to propose new ways of early estimation of the food quality, the study of the microbial populations responsible for pollutant removal, or the study of different processes of removal of microbes for a safer water supply. Populations and isolates are to be studied using DNA or total DNA, denaturing gradient gel electrophoresis (DGGE), cloning, analytical chemistry, biochemistry, microscopy, fluorescence *in situ* hybridization (FISH) and other strategies, in order to identify and characterize the members of the population responsible for optimal processes operation/production.

7.2 Technical activity

Since 1997 a great percentage of MT Crespo working time (~80%) has been related to the Analytical Services Unit of IBET/ITQB. In those years and as responsible person for the Microbiology Laboratory had to plan the refurbishment of premises so that they can comply with standards for a microbiology accredited laboratory. Since 2006, as Director of the Analytical Services Unit (ASU), now a joint department of IBET and ITQB-UNL under the executive management of IBET, more administrative and technical work has been performed in order to maintain a Quality System running. Actually ASU is certified by the INFARMED (Portuguese Pharmacy and Medicines Agency) as compliant with OECD Good Laboratory Practices Principles (GLP). Services include studies on candidate pharmaceutical products (GLP), as well as analytical development, method validation and testing of chemicals and biologicals for the pharmaceutical, food and chemical industries and academia. ASU requested recognition by INFARMED as working under GMP - Quality Control and is waiting for the first audit.

8. Research projects

8.1 As project leader/responsible

- Bactérias Lácticas de Produtos Cárneos Portugueses: Isolamento, Caracterização e Produção de Culturas de Arranque, JNICT. Contract PBIC/C/AGR/1828/92 (1993-1995)
- Actividade Antimicrobiana da Bactérias Lácticas e Qualidade da Azeitona de Mesa, PAMAF. Contract PAMAF 2010 (1996-1998) (Responsible for IBET contribution)
- Melhoramento do Sabor de Produtos Cárneos Fermentados: Estudo da Actividade Lipolítica de *Lactobacillus*, JNICT. Contract PBIC/C/AGR/2283/95 (1996-1998)
- Técnicas Moleculares na Identificação, Diferenciação e Taxonomia de Microrganismos: Aplicação ao Estudo de Bactérias Heterolácticas e Fungos Fitopatogénicos. PRAXIS XXI

- Program. Contract PRAXIS/2/2.1/BIA/309/94 (1996-1998) (Responsible for IBET contribution)
- IMPACTO-Investigação dirigida ao Melhoramento do Processo de produção de queijo Serra por integração de abordagens Científicas e Tecnológicas. PRAXIS XXI Program. Contrato PRAXIS/2/2.1/BIO/1121/95 (1996-1999) (Responsible for IBET contribution)
 - Deepening the knowledge on the role of enterococci, from manufacture through maturation of traditional cheeses. Contract POCTI/AGR/36165/1999 (Responsible for IBET contribution)
 - Caracterização do catabolismo de péptidos em bactérias lácticas de vinho e produtos cárneos. Contract POCTI/AGR/39613/2001. (2002-2005)
 - Searching for rhizobial strains with improved skills to thrive in arid soils. Contract POCTI/AGR/46371/2002 (Responsible for IBET contribution). (2004-2007)
 - From European fork to Latin American farm: an innovative networking platform for EU-LAC partnerships in food quality and safety R&D (ALCUEFOOD). Specific Supported Action, EU Contract 007116/2005 (Responsible for IBET contribution). (2005-2008)
 - European food safety goes global (SELAMAT). Specific Support Action, EU Contract CT-2004-506386 (Responsible for IBET contribution). (2004-2008)
 - BIOlogical agents: Strengthening the Adequate response to deliberate releases by establishment of a Framework European-wide (BIOSAFE). Specific Supported Action, EU Contract 022725/2006 (Responsible for IBET contribution). (2006-2009)
 - Olive Oil for the World, EUREKA Project E! 4997 Euroagri State of the Olive, Junho 2009. (Responsible for IBET contribution). (2009-2013)
 - Towards a Latin America & Caribbean Knowledge Based Bio-Economy (KBBE) in partnership with Europe. Coordination and Support Action, FP7, grant agreement no. 264266 (Responsible for IBET contribution). (2010-2013)
 - Integração de factores de competitividade na cadeia de produção de azeite (Azeite+Global), Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico, "Projectos de I&DT Empresas Individuais (2010-2012).
 - Collab4Safety - Towards sustainable global food safety collaboration. Coordination and Support Action, FP7, Grant agreement no. 311611 (Responsible for IBET contribution). (2012-2016)
 - Nitrogen-fixing biofertilizers for gramineous crops, Contract PTDC/AGR-AAM/100577/2008, GCT. (Responsible for IBET contribution). (2010-2013)
 - Towards a Latin America & Caribbean Knowledge Based Bio-Economy (KBBE) in partnership with Europe. Coordination and Support Action-Support Action (CSA-SA). (Responsible for IBET contribution). (2010-2013).
 - BIOMUSH: Early detection and bio-control of mushroom pests and diseases in an Integrated Pest Management approach to comply with the European Directive 2009/128/EU. FP7-SME-2012-314241. (Responsible for IBET contribution). (2012-2015).
 - CLEANWARD - Safe, Chemical-Free, Cleaning of Hospital Ward Surfaces. FP7-SME-2012-315488. (Responsible for IBET contribution). (2012-2014).

8.2. As member of the research team

- Metabolismo e Constituição Celular de Bactérias Lácticas, JNICT. Contract PBIC/C/AGR/1486/92 (1993-1995). (PI Cidália Peres)
- Optimização da Produção e Conservação Natural de Sumos de Frutos (1993-1995), JNICT – STRIDE D Program. (PI Luís Vilas Boas)
- Estudo de Algumas das Causas de Ocorrência do Gosto a Rolhas em Vinhos, PAMAF. Contract 2065 (1996-1998). (PI Vitória San Romão)
- Ocorrência em vinhos de algumas espécies químicas vestigiárias com importância na sua segurança alimentar, PAMAF. Contract 2053 (1997-1999). (PI António Curvelo Garcia)

- Projecto de Apoio à Inovação Tecnológica no Sector da Rolha de Cortiça (1999-2000). (PI José Figueiredo Marques)
- Methodologies and design criteria for soil and water resource management and policy formulation in peri-urban farming systems in Southern Africa. EU project –DG XXII. Contract Nº IC18-CT97-0160 (1997-2000). (PI Manuel Carrondo)
- Enterococos alimentares: antibióticos e segurança. Programa SAPIENS. Contract POCTI/AGR/39371/2001. (PI M^ª Fátima Silva Lopes)
- Membrane bioreactor technology (MBT) with an EU perspective for advanced municipal wastewater treatment strategies for the 21st century. Specific Targeted Project (STREP). (PI João Goulão Crespo)
- Biological removal of xenobiotics from wastewater treatment systems. Contract PTDC/AMB/65702/2006, FCT. (PI Gilda Carvalho, Pos-Doc at T. Crespo Laboratory). (2007-2010)
- Development and validation of integrated drinking water treatment processes in Portugal and Norway. Project European Economic Area Financial Mechanism Office, contract PT0012. (PI Maria Ascensão Reis). (2007-2011)
- Development and validation of enhanced drinking water treatment processes combining titanium dioxide photocatalysis and membrane filtration. Contract PTDC/AMB/66024/2006, FCT. (PI Vanessa Pereira, Pos-Doc at T. Crespo Laboratory). (2007-2011)
- Fungi watch: Benefits and hurdles associated with the presence of fungi in drinking water sources. Contract PTDC/AAC-AMB/108303/2008, FCT. (PI Vanessa Pereira, Pos-Doc at T. Crespo Laboratory). (2010-2013)
- Sustainable membrane bioreactors for advance wastewater treatment: a molecular approach. PTDC/EBB-EBI/098862/2008 (PI Gilda Carvalho, Pos-Doc at T. Crespo Laboratory). (2010-2013)
- BIOTEXTILE-Sequencing batch reactor biotechnology toward effective textile wastewater treatment. PTDC/EBB-EBI/120624/2010. (PI Gilda Carvalho, Pos-Doc at T. Crespo Laboratory). (2011-2014)

9. Other CV Highlights

- Supervision/co-supervision: 5 PhD Students (3 thesis defended), 3 Pos-Docs, 1 Pos-Doc in Artistic Studies, 2 Master students.
- Coordination and training of specialized technicians.
- Member of juries of PhD and Master Thesis: 14 PhD juries in Portuguese Universities (not including own students), 10 Master juries (not including own students).
- Dissemination of own research in scientific conferences: around 100 posters presented.

10. Scientific publications

10.1 Book chapters

1. T. Semedo-Lemsaddek, P.I. Alves, R. Tenreiro and M.T. Barreto Crespo. 2009. *Enterococcus*. In Molecular Detection of Foodborne Pathogens, Dongyou Liu (Ed.), Section II. Foodborne Gram-positive Bacteria, Chapter 12, CRC Press, USA.
2. T. Semedo-Lemsaddek, P.I. Alves, R. Tenreiro and M.T. Barreto Crespo. 2010. *Enterococcus*. In Molecular Detection of Human Pathogens, Dongyou Liu (Ed.), Section II Firmicutes and Tenericutes. Chapter 22, CRC Press, USA.
3. L.L. Pimentel, M.E. Pintado, F.X. Malcata, R. Tenreiro, T. Semedo-Lemsaddek and M.T. Barreto Crespo. 2011. Introduction: a journey to the world of *Enterococcus*. In *Enterococcus* and safety,

- T. Semedo-Lemsaddek, M.T. Barreto-Crespo and R. Tenreiro (Eds), Series Advances in Food Safety and Food Microbiology, Anderson de Souza Sant'Ana and Bernadette D.G.M. Franco (Eds.), Chapter 1, Nova Science Publishers, NY, USA.
4. M.T. Barreto Crespo and P.I. Alves. 2011. Enterococci and food. *In Enterococcus and safety*, T. Semedo-Lemsaddek, M.T. Barreto-Crespo and R. Tenreiro (Eds), Series Advances in Food Safety and Food Microbiology, Anderson de Souza Sant'Ana and Bernadette D.G.M. Franco (Eds.), Chapter 15, Nova Science Publishers, NY, USA.
 5. M.T. Barreto Crespo, R. Tenreiro and T. Semedo-Lemsaddek. 2011. Closing remarks: potential risks of enterococci to food safety regarding the 21ST century challenges. *In Enterococcus and safety*, T. Semedo-Lemsaddek, M.T. Barreto-Crespo and R. Tenreiro (Eds), Series Advances in Food Safety and Food Microbiology, Anderson de Souza Sant'Ana and Bernadette D.G.M. Franco (Eds.), Chapter 20, Nova Science Publishers, NY, USA.

10.2 Book Edition

1. *Enterococcus and safety*. 2011. T. Semedo-Lemsaddek¹, M.T. Barreto-Crespo and R. Tenreiro (Eds). In Series Advances in Food Safety and Food Microbiology, Anderson de Souza Sant'Ana and Bernadette D.G.M. Franco (Eds.), Nova Science Publishers, NY, USA.

10.3 Refereed Articles

1. M.T.O. Barreto, E.P. Melo e M.J.T. Carrondo. 1989. Starter culture production in fluidized bed reactor with a flocculent strain of *L. plantarum*. Biotechnol. Lett. 11(5): 337-342.
2. M.T.O. Barreto, E.P. Melo, J.L. Moreira, M.J.T. Carrondo. 1991. High cell density reactors for the production of *Lactobacillus plantarum*. J. Ind. Microbiol. 7(1): 63-70
3. M.T.O. Barreto, E.P. Melo, J.S. Almeida, A.M.R.B. Xavier, M.J.T. Carrondo. 1991. A kinetic method for calculating the viability of lactic starter cultures. Appl. Microbiol. Biotechnol. 34: 648-652
4. J.P.S.G. Crespo, A.M.R.B. Xavier, M.T.O. Barreto, L.M.D. Gonçalves, J.S. Almeida, M.J.T. Carrondo. 1992. Tangential flow filtration for continuous cell recycle culture of acidogenic bacteria. Chem. Eng. Sci. 47: 205-214
5. L.M.D. Gonçalves, M.T.O. Barreto, A.M.R.B. Xavier, M.J. Carrondo, J. Klein. 1992. Inert supports for lactic acid fermentation - a technological assessment. Appl. Microbiol Biotechnol.38: 305-311
6. M.T. Barreto Crespo, M.J.T. Carrondo. 1994. Influence of operational parameters in the flocculation and production of *Lactobacillus plantarum*. J. Ind. Microbiol.13: 63-69
7. M.F. Silva Lopes, A. E. Cunha, J.J. Clemente, M.J.T. Carrondo, M. T. Barreto Crespo. 1999. "Influence of environmental factors on lipase production by *Lactobacillus plantarum*". Appl. Microbiol. Biotechnol. 51: 249-254
8. M.F. Silva Lopes, A.L. Leitão, J.J. Figueiredo Marques, M.J.T. Carrondo, M. T. Barreto Crespo. 1999. Processing of extracellular lipase of *Lactobacillus plantarum*: involvement of a metalloprotease. FEMS Microbiol. Lett. 176(2): 483-487
9. M.F. Silva Lopes, C.I. Pereira, F.M.S. Rodrigues, M.P. Martins, M.C. Mimoso, T.C. Barros, J.J. Figueiredo Marques, R.P. Tenreiro, J.S. Almeida, M.T. Barreto Crespo. 1999. Registered designation of origin area of fermented food products defined by microbial phenotypes and artificial neural networks. Appl. Env. Microbiol. 65:4484-4489
10. M.C. Leitão, H. C. Teixeira, M.T. Barreto Crespo, M.V. San Romão. 2000 Biogenic amines occurrence in wine. Amino acid decarboxylase and proteolytic activity expression in *Oenococcus oeni*. J. Agr.Food Chem.48: 2780-2784
11. C.I. Pereira, M.T. Barreto Crespo, M.V. San Romão. 2001. Evidence for proteolytic activity and biogenic amines production in *Lactobacillus curvatus* and *Lactobacillus homohiochii*. Int. J. Food

- Microbiol. 68: 211-216
12. M. Fátima Silva Lopes, Ana L. Leitão, Manuella Regalla, J.J. Figueiredo Marques, M. J. Teixeira Carrondo, M. Teresa Barreto Crespo. 2002. Characterization of an highly thermostable extracellular lipase from *Lactobacillus plantarum*. Int. J. Food Microbiol. 76: 107-115
 13. A.C. Oliveira, C.M. Peres, J.M. Correio Pires, C. Silva Pereira, S. Vitorino, J.J. Figueiredo Marques, M.T. Barreto Crespo, M.V. San Romão. 2003. Cork Stoppers industry: defining appropriate mould colonization. Microbiol. Res. 158: 1-8
 14. T. Semedo, M. Almeida Santos, M.F. Silva Lopes, J.J. Figueiredo Marques, M.T. Barreto Crespo, R. Tenreiro. 2003. Virulence factors in food, clinical and reference enterococci: a common trait in the genus? Syst Appl Microbiol. 26: 13-22
 15. T Semedo, Almeida Santos M, Martins P, Silva Lopes MF, Figueiredo Marques JJ, Tenreiro R, Barreto Crespo MT. 2003. Comparative study using type strains and clinical and food isolates to examine hemolytic activity and occurrence of the *cyl* operon in enterococci. J Clin Microbiol. 41: 2569-2576
 16. M.F. Silva Lopes, T. Ribeiro, M.P. Martins, R. Tenreiro, M.T. Barreto Crespo. 2003. Gentamicin resistance in dairy and clinical enterococcal isolates and in reference strains. J. Antimicrob. Chemother. 52: 214-219
 17. P.I. Alves, M.P. Martins, T. Semedo, J.J. Figueiredo Marques, R. Tenreiro, M. T. Barreto Crespo. 2004. Comparison of phenotypic and genotypic taxonomic methods for the identification of dairy enterococci. Anton Leeuw Int. J. G. 85: 237-252
 18. M.F. Silva Lopes, T. Ribeiro, M. Abrantes, J.J. Figueiredo Marques, Rogério Tenreiro, M.T. Barreto Crespo. 2005. Antimicrobial resistance profiles of dairy and clinical isolates and type strains of enterococci. Int. J. Food Microbiol. 103: 191-198
 19. M.F. Silva Lopes, A.P. Simões, R. Tenreiro, J.J. Figueiredo Marques, M.T. Barreto Crespo. 2006. Activity and expression of a virulence factor, gelatinase, in dairy enterococci. Int. J. Food Microbiol. 112 (3): 208-214
 20. T. Ribeiro, M. Abrantes, M.F. Silva Lopes, M.T. Barreto Crespo. 2007. Vancomycin-susceptible dairy and clinical enterococcal isolates carry *vanA* and *vanB* genes. Int. J. Food Microbiol. 113 (3): 289-295
 21. L. L. Pimentel, T. Semedo, R. Tenreiro, M.T. Barreto Crespo, M.M.E. Pintado, F. Xavier Malcata. 2007. Assessment of safety of enterococci isolated throughout traditional Terrincho cheesemaking – virulence factors and antibiotic susceptibility. J. Food Prot. 70(9):2161-2167
 22. A.T. Serra, A.A. Matias, A.V.M. Nunes, M.C. Leitão, D. Brito, R. Bronze, S. Silva, A. Pires, M.T. Barreto Crespo, M.V. San Romão, C.M. Duarte. 2008. *In vitro* evaluation of olive- and grape-based natural extracts as potential preservatives for food. Innov. Food Sc. and Emerg. Technol. 9 (3), 311-319
 23. C.I. Pereira, D. Matos, M.V. San Romão and M.T. Barreto Crespo. 2009. A dual role for the tyrosine decarboxylation pathway in *Enterococcus faecium* E17: acid tolerance response and generation of a proton motive force. Appl. Env. Microbiol. 75 (2): 345-352
 24. A.R. Carlos, J. Santos, T. Semedo-Lemsaddek, M.T. Barreto Crespo and R. Tenreiro. 2009. Enterococci from artisanal dairy products show high levels of adaptability. Int. J. Food Microbiol. 129: 194-199
 25. V.J. Pereira, M. C. Basílio, D. Fernandes, M.Domingues, J. M. Paiva, M. J. Benoliel, M. T. Crespo, M. V. San Romão. 2009. Occurrence of filamentous fungi and yeasts in three different drinking water sources. Water Res., 43: 3813-3819
 26. F.B. Gaspar, M.T.B. Crespo and M.F. Silva Lopes. 2009. Proposal of a reliable enterococcal cytolysin production assay, avoiding apparent incongruence between phenotype and genotype. J Med Microbiol. 58: 1122-1124
 27. F.B. Gaspar, N. Teixeira, L. Rigottier-Gois, P. Marujo, C. Nielsen-ReRoux, M.T.B. Crespo, M.F. Silva Lopes P. Serror. 2009. Virulence of *Enterococcus faecalis* dairy strains in an insect model: Role of *fsrB* and *gelE* genes. Microbiology 155: 3564-3571

28. C.I.Pereira, M.V. San Romão, J. Lolkema, M. T. Barreto Crespo 2009. "Weissella halotolerans W22 combines arginine deiminase and ornithine decarboxylation pathways and converts arginine to putrescine". J. Appl. Microbiol. 107:1894-1902
29. T. Semedo-Lemsaddek, M.T. Barreto Crespo and R. Tenreiro. 2009. Occurrence of putative pathogenicity islands in enterococci from distinct species and differing origins. Appl. Env. Microbiol. 75 (22): 7217-7274
30. A.R. Carlos, T. Semedo-Lemsaddek, M.T. Barreto Crespo and R. Tenreiro. 2010. Transcriptional analysis of virulence-related genes in enterococci from distinct origins. J. Appl. Microbiol. 108(5): 1563-1575
31. A.C. Dourado, P.I. Alves, T. Tenreiro, E.M. Ferreira, R. Tenreiro, P. Fareleira, M.T. Barreto Crespo. 2009. Identification of *Sinorhizobium medicae* based on a specific genomic sequence unveiled by M13-PCR fingerprinting. Int. Microbiol. 12: 215-210
32. S. Sanches, Barreto Crespo, M. T., Pereira, V. J. 2010. Drinking Water Treatment of Priority Pesticides using Low Pressure UV Photolysis and Advanced Oxidation Processes. Water Res.44: 1809-1818
33. V.J. Pereira, D. Fernandes, G. Carvalho, M.J. Benoliel, M.V. San Romão, M.T. Barreto Crespo. 2010. Assessment of the presence and dynamics of fungi in drinking water sources using cultural and molecular methods. Water Res. 44: 4850-4859
34. S. Sanches, Barreto Crespo, M. T., Pereira, V. J. 2011. Fugacity in the environment and wastewater removal predictions of toxic xenobiotics. Global J. Environ. Sci. Technol. 1: 1-6.
35. S. Sanches, A. Penetra, C. Granado, V.V. Cardoso, E. Ferreira, M.J. Benoliel, M.T. Barreto Crespo, V.J. Pereira, J.G. Crespo, 2011. Removal of Pesticides and Polycyclic Aromatic Hydrocarbons from Different Drinking Water Sources by Nanofiltration. Desalin. Water Treat. 27: 141-149.
36. G. Carvalho, B. Almeida, J. Fradinho, A. Oehmen. M.A. Reis, M.T. Crespo. 2011. Microbial Characterization of Mercury-Reducing Mixed Cultures Enriched with Different Carbon Sources. Microbes Environ. 26: 293-300.
37. S. Sanches, C. Leitão, A. Penetra, V.V. Cardoso, E. Ferreira, M.J. Benoliel, M.T. Barreto Crespo, V.J. Pereira. 2011 Direct photolysis of polycyclic aromatic hydrocarbons in drinking water sources. J Hazard Mater. 192 (3):1458-65.
38. S. Sanches, Ana Penetra, Alexandre Rodrigues, Elisabete Ferreira, Vítor V. Cardoso, Maria João Benoliel, Maria T. Barreto Crespo, Vanessa J. Pereira, João G. Crespo. 2012. Nanofiltration of Hormones and Pesticides in Different Real Drinking Water Sources. Separation Purification Technology 94: 44-53.
39. V.J. Pereira, Galinha, J., Barreto Crespo, M. T., Matos, C., Crespo, J.G. 2012. Integration of Nanofiltration, UV Photolysis, and Advanced Oxidation Processes for the Removal of Hormones from Surface Water Sources. Separation and Purification Technology 95: 89–96.
40. A.F. Silva, Carvalho G, Oehmen A, Lousada-Ferreira M, van Nieuwenhuijzen A, Reis MA, Crespo MT. 2012. Microbial population analysis of nutrient removal-related organisms in membrane bioreactors. Appl Microbiol Biotechnol. 93 (5): 2171-80.
41. A.F. Silva, G. Carvalho, R. Soares, A. V. Coelho and M.T. Barreto Crespo. 2012. Step-by-step strategy for protein enrichment and proteome characterization of extracellular polymeric substances in wastewater treatment systems. Appl Microbiol Biotechnol. 95: 767-776.
42. F.B. Gaspar, N. Montero, E. Akary, N. Teixeira, R. Matos, B. Gonzalez-Zorn, MT Barreto Crespo, P. S.Serror, MF Silva Lopes. 2012. Incongruence between the cps type 2 genotype and host-related phenotypes of an *Enterococcus faecalis* food isolate. Int J Food Microbiol. 15:120-125.
43. M.G. Albuquerque, G. Carvalho, C. Kragelund; Ana F. Silva, M.T. Barreto Crespo, M.A.M. Reis, P.H. Nielsen. 2012. Link between microbial composition and carbon substrate uptake preferences in a PHA-storing community. ISME J. doi: 10.1038/ismej.2012.74.
44. V.J. Pereira, R. Marques, M. Marques, M.J. Benoliel, M.T. Barreto Crespo. 2012. Free Chlorine Inactivation of Fungi in Drinking Water Sources. Water Research. *In press*

11. Scientific communications

11.1 Oral communications in international conferences (last 5 years)

1. M.T. Barreto Crespo. 2007. "Biotecnologia e Alimentação". Workshop para Jornalistas e Comunicadores de Ciência – Biotecnologia e Sociedade. Centro de Informação em Biotecnologia, ITQB.
2. A. Oehmen, A., S. Serra, G. Carvalho, M.T.B. Crespo, J.L. Capelo, S. Velizarov, J.G. Crespo e M.A.M. Reis. 2007 Mercury bioremediation from water systems through pure and mixed microbial cultures. Water treatment and Reuse II, Tomar, Portugal.
3. G. Cavalho, P.C. Lemos, A. Oehmen, M.T.B Crespo e Reis, M.A.M. 2007. Dinâmica de populações em sistemas de remoção desnitrificante de fósforo com acetato e propionato, 9ª CNA, Aveiro, Portugal.
4. G. Carvalho, A.F. Silva, J.G. Crespo, M.A.M. Reis and M.T.B. Crespo. 2007. Microbial population characterization on membrane bioreactors for wastewater treatment. Advances and applications of FISH technology: environmental, drinking water and foodstuff analysis, Riga, Letónia.
5. M.T. Barreto Crespo. 2008. Alimentos transgênicos: o que são e como se detectam. Alimentos transgênicos: uma avaliação bioética, 29 Março, Auditório Casa da Cultura, Ericeira, Instituto de Cultura Europeia e Atlântica.
6. J.J. Flowers, S. He, G. Carvalho, S.B. Peterson, C. Lopez, S. Yilmaz, J.L. Zilles, E. Morgenroth, P.C. Lemos, M.A.M. Reis, M.T.B. Crespo, D.R. Noguera and K.D. McMahon. 2008. Ecological differentiation of *Accumulibacter* in EBPR reactors. proceedings of WEFTEC2008, Chicago, USA.
7. J. Fradinho, A. Oehmen, G. Carvalho, J.L. Capelo, M.T.B. Crespo, S. Velizarov, J.G. Crespo and M.A.M. Reis. 2008. Effect of carbon source on the mercury bioremediation performance of mixed cultures. 4th European Bioremediation Conference, Crete, Greece.
8. U. Bracklow, G. Carvalho, M.T.B. Crespo, A. Drews, M. Pallasch, M. Barjenbruch, and M. Kraume. 2008. Substrate influence on the performance and microbial population of a laboratory scale MBR. SIDASA08: International Symposium on Sanitary and Environmental Engineering, Florence, Italy.
9. M.T. Barreto Crespo, F. Spínola Rodrigues. 2008. Implementação de métodos de detecção e quantificação de OGM. 3º Encontro de Laboratórios de Microbiologia Alimentar, Relacre, Lisboa.
10. A.F. Silva, G. Carvalho, M.A.M. Reis, M.T. Barreto Crespo. 2009. Molecular analysis of phosphorous removing-related populations in membrane bioreactors. Microbiotec⁰⁹, Vilamoura, Portugal.
11. Sanches, S., Pereira, V.J., Crespo, M.B., Cardoso, V.V., Penetra, A.I., Granado, C., Benoliel, M.J., Ferreira, F.C., Crespo, J.G. 2009. Nanofiltration and Reverse Osmosis: Membranes Characterization and Xenobiotics Removal. Xenobiotics in the Urban Water Cycle – XENOWAC 2009, Cyprus
12. Sanches, S., Ricardo, J., Penetra, A.I., Cardoso, V.V., Benoliel, M.J., Crespo, M. T. B., Passarinho, P. C., Crespo, J.G., Pereira, V. J. 2009. UV degradation of Xenobiotics in drinking water sources via direct and indirect photolysis at 254nm. Xenobiotics in the Urban Water Cycle – XENOWAC 2009, Cyprus
13. Carvalho G. Almeida B., Fradinho J., Oehmen A., Reis M.A.M. and Crespo M.T.B. 2009. Impact of carbon source on the microbial community diversity in mercury bioremediation systems, Xenowac 2009, Paphos, Cyprus
14. Galinha, C.F., Carvalho, G., Silva, A.F., Portugal, C., Oliveira, R., Crespo, M.T.B., Reis, M.A.M. and Crespo, J.G. 2009. New developments in membrane bioreactors characterization and monitoring, MBR-Network Workshop - Salient outcomes of the European projects on MBR technology, Berlin, Germany
15. M.T. Barreto Crespo. 2010. Microbiologies: from the isolate to the population. Ciclo de

Conferências 25 anos da ESB/UCP, ESB, Porto, Portugal

16. B. Almeida, Carvalho G. and Crespo M.T.B. 2010. Microbial Community Dynamics during Acclimatisation of Activated Sludge for Micropollutant Biodegradation. Water Research Conference. Lisbon, Portugal
17. M. T. Barreto Crespo. 2010. *Enterococcus* and the controversy on food safety. XX Congresso Latinoamericano de Microbiología, Setembro, Montevideo, Uruguay
18. M.T. Barreto Crespo. 2011. Riscos emergentes e o seu impacto nas transacções no mercado global. Seminário Cátedra FRULACT: Desafios dos Riscos Emergentes para a Indústria Alimentar, ESB UCP, Porto, Portugal
19. Sanches, S., Penetra, A., Rodrigues, A., Cardoso, V. V. , Ferreira, E., Benoliel, M.J., Barreto Crespo, M.T., Pereira, V.J., Crespo, J.G. 2011. Evaluation of Different Nanofiltration Systems for the Removal of Emerging Micropollutants from Different Drinking Water Sources. International Conference Micropol & Ecohazard 2010-2011, Sydney, NSW, Australia
20. Pereira, V.J., Matos, C. T., Sanches, S., Marques, R., Marques, M., Cardoso, V., Benoliel, M. J., Crespo, J. G., Reis, M. A., San Romão, V., Barreto Crespo, M.T. 2011. Integrated membrane processes and disinfection techniques for treatment of drinking water emerging contaminants. International Conference Micropol & Ecohazard 2010-2011, Sydney, NSW, Australia
21. V.J. Pereira, M. Marques, R. Marques, M.V. San Romão, M.T. Barreto Crespo. 2011. Occurrence of filamentous fungi in real water sources and their inactivation using chlorine and chloramines. Water Quality Technology Conference and Exposition. American Water Works Association. November 13-17, 2011, Phoenix, Arizona, USA
22. M. T. Barreto Crespo. 2011. *Enterococcus* and the controversy about food safety. Ciclo “Um dia com...”, CEBAL, Portugal
23. M. T. Barreto Crespo. 2011. Emerging pathogens and their impact in research and global market. Symposium Industrial and Food Microbiology and Biotechnology, MicroBiotec’11, Portugal

10 Activities under quality systems

10.1 Participation in national and international committees

1994/2000	Technical Standardization Commission - CT61: Food Microbiology
1994/2004	Relacre, Technical Commission CTR06 – Microbiological Assays
2000	Portuguese delegate in the “Meeting of scientific experts on safety of genetically modified organisms, in connection with the launch of a “European Round Table on GMO Safety Research”, Brussels (5 th April)
Portuguese delegate in the “European Round Table on GMO Safety Research”, Brussels (9 th October)	
2000/2005	Portuguese delegate in the European Network of GMO Laboratories, coordinated by the EU Joint Research Centre, Ispra, Italy
2006/(...)	Instituto Português de Acreditação (IPAC), Technical Commission, GT-T2, Microbiological Assays
2008/(...)	Member of the Specialized Technical Committee on “Genetically Modified Organisms”, ASAE, Portugal

10.2 Participation in international validation of methods

1. M. Lipp, E. Anklam, P. Brodmann, K. Pietsch, J. Pauwels. 1999. “Results of an interlaboratory assessment of a screening method of genetically modified organism in soy beans and maize”. Food Control 10: 379-383.
2. Lipp, M. , Anklam, E. , StaveJ.W. 2000. Validation of an immunoassay for detection and quantitation of a genetically modified soybean in food and food fractions using reference materials: Interlaboratory study. J AOAC Internat. 83 (4): 919-927.

Collaborators: Bahrs-Windsberger, J., Barreto Crespo, M.T., Benvenuto, E., Berben, G., Brignon, P., Busch, U., Cordes, C., Eklund, E., El Jaziri, M., Engel, K.H., Eriksen, F., Eriksson, S., Felinger, A., Fogher, C., Folch, I., Garrett, S., Hischenhuber, C., Hörtner, H., Jany, K.D., Krska, R., Kruse, L., Kuiper, H.A., Lobre, C., Miraglia, M., Müller, W., Nunes Costa, J.M., Oliveira, L., Patel, P., Pietsch, K., Pöpping, B., Remler, P., Rentsch, J., Schulze, M., Sutton, M., Van Duijn, G., Van Kan, F., Wurzel, A.

3. J. W. Stave, K. Magin, H. Schimmel, T. S. Lawruk, P. Wehling, A. R. Bridges. 2000. AACC Collaborative study of a protein method for detection of genetically modified corn". Cereal Foods World 45:497-501
4. P. Wehling, A. Bridges, K. Magin, H. Schimmel, T. Lawruk, J. W. Stave. 2000. An AACC international collaboration study of an ELISA test kit for MON810 Cry1Ab in Ground Corn". Poster presented at AACC Annual Meeting, Kansas City, US

10.3 Participation in the elaboration of technical guides

- Guia RELACRE 3, 1996, "Validação de resultados em laboratórios químicos", Relacre
- Guia RELACRE 6, 1996, "Acreditação de laboratórios de ensaios microbiológicos", Relacre
- Guia IPAC OGC005, 2006, "Guia para a estimativa de incertezas em ensaios microbiológicos", IPAC
- Guia RELACRE 6, 2007, "Acreditação de laboratórios de ensaios microbiológicos", Relacre
- Guia IPAC OGC009, 2009, "Guia para controlo de qualidade em laboratórios de microbiologia" (under approval), IPAC

10.4 Participation in Audits

2001/2007	Technical expert of the National Accreditation Body, Instituto Português da Acreditação (IPAC), for the accreditation of microbiology laboratories under the scope of the standard NP EN ISO/IEC 17025.
2008/(...)	Technical auditor of Instituto Português da Acreditação (IPAC), for accreditation of microbiology under the scope of the standard NP EN ISO/IEC 17025 in the L07 area – Food and agro-food products and L22 area – Cosmetics, L61 – Pharmaceutical products.
2009/2010	Consultant for Agência Portuguesa do Ambiente (APA) in analysis of notification and inspection of premises for confined utilization of genetic modified microorganisms in the scope of Decreto-Lei nº 2/2001.

11 Science dissemination activities

11.1 Media

- M.T. Barreto Crespo. 2001. TV Program Grande Reportagem, RTP, "Food safety and mechanism of control created in Portugal to warranty it"
- M.T. Barreto Crespo. 2001. TV Program "Maria Elisa", RTP 1, discussion of the theme "Transgenic food"
- 2004 GM in practice. Visit to transgenic crops fields in Zaragoza, Spain with 15 Portuguese journalists. Organization of Centro de Informação de Biotecnologia
- M.T. Barreto Crespo. 2008. TV Program 4XCiência. Theme "Food: Heritage and Challenge", RTPN

11.2 Other activities

2001	Editor ITQB Newsletter, nº 3, dedicated to Leonardo da Vinci
2005/2011	Open Day ITQB – organization of activities for the general public
2009	“Microbiologist for one day”. One morning in the Microbiology Laboratory of 12 children under 10 to perform microbiological experiments with the lab team
2009	European Night of Researchers. Coordination of the activities for children in the ITQB stand, gardens of the Fundação Calouste Gulbenkian, Lisboa, Portugal
2010	Euroskills Lisboa 2010 - Pavilhão Ciencia Viva, Invited Speaker “Why I am a scientist” and ASU present to show the work performed and its connection with companies.
2012	“Small is beautiful”. TEDxFCT Conference. Faculdade de Ciências e Tecnologia , Universidade Nova de Lisboa.