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**Academic History:**

- Master in Vegetal Biology and Physiology, option Viral and Microbial Pathology, University of Bordeaux II, 1983.
- PhD graduation, mention life sciences, University of Bordeaux II , 1988.
- Diploma HDR (Research Supervision Qualification), University Victor Segalen Bordeaux 2, 1995.
- Nationally qualified for the functions of University Professor (section N° 64: Biochemistry and Molecular Biology and N° 65: Cellular Biology and Genetics) in 1999, 2003, 2008 and 2012.

**Professional/Scientific Career:**

- 1992 – present: Assistant professor (Microbiology, Molecular Biology and Mycology), University of Bordeaux
- 2011 – present : Scientist attached to the UR 1264 (MycSA) Mycology and Food Security of INRA (National Institut of Agronomic Research)
- 2005 - 2010: Scientist attached to UMR 5234 (Cellular and Molecular Microbiology and Pathogenicity) of CNRS (National Center of Scientific Research)
- 1992- 2004: Scientist attached at Laboratory of Molecular genetics and Breeding of Cultivated Mushrooms, INRA, UMR 1090 (Genomics, Development and Pathogenicity)
- 1988 – 1992: Junior Scientist, University Bordeaux II

### **Others activities and honors :**

- 2007 - 2015: Member of the National Council of University (French Ministry of Research and University), section 64 Biochemistry and Molecular Biology.
- 2004 – present: leader of the Master 2 in Fungal Biotechnologies (University of Bordeaux)
- 2015: Invited for a course in Phytopathology at the University of Tsukuba (Japan)
- 2011: Member of the organizing committee and Editor of proceedings of the 7<sup>th</sup> International Conference on Mushroom Biology and Mushroom Products, 2011, Arcachon.
- Reviewer for: Journal of Biotechnology, Fungal Genetics and Biology, FEMS Microbiol. Letters, BMC Research Notes, BMC Microbiology, BMC Genomics, Canadian Journal of microbiology, Int. J. of Biological Sciences, PlosOne, International Journal of Molecular Sciences, Plant Physiology and Biochemistry.

### **Research Key words**

Fungal mitochondrial genomics, Mushrooms (*Agaricus bisporus*, *Agrocybe aegerita*), Mycotoxin producing phytopathogens (interaction *Fusarium graminearum*/ maize and cereals)

### **Research interest at present time**

Molecular mechanisms involved in mycotoxinogenesis. Relationship between mitochondria and toxinogenesis in *Fusarium graminearum*.

### **Peer-reviewed Publications**

- 1 - (1983) Characterization and molecular cloning in *Escherichia coli* of a plasmid from the mollicute *Spiroplasma citri*. MOUCHES C., BARROSO G. and J. M. BOVÉ. **Journal of Bacteriology**, 156, 952-955.
- 2 - (1984 ) "Characterization of two cryptic plasmids from *Spiroplasma citri* and occurrence of their DNA sequences among various Spiroplasmas. MOUCHES C., BARROSO G. , GADEAU A. and J. M. BOVÉ. **Annales de Microbiologie** 135A, 17-24.
- 3 - (1985) Gene for Spiralin, the major membrane protein of the helical mollicute *Spiroplasma citri* : cloning and expression in *Escherichia coli*. MOUCHES C.,

CANDRESSE T., BARROSO G., SAILLARD C., WROBLEWSKI H. and J. M. BOVÉ. **Journal of Bacteriology**, 164, 1094-1099.

4 - (1988) Chromosomal gene transfer in *Spiroplasma citri*. BARROSO G. and J. LABARÈRE. **Science**, 241, 959-961.

5 - (1988) Effects of UV-irradiation on germination and on chloramphenicol and tetracycline resistance of *Volvarella volvacea* basidiospores. BARROSO G., MAI THI T. and J. LABARÈRE. **Mushroom Journal for the Tropics**, 8, 73-84.

6 - (1989) Lethal and mutation frequency responses of *Spiroplasma citri* cells to UV irradiation. LABARÈRE J. and G. BARROSO. **Mutation Research**, 210, 135-141.

7 - (1989) Involvement of a *Spiroplasma citri* Plasmid in the erythromycin-resistance Transfer. SALVADO J. C., BARROSO G. and J. LABARÈRE. **Plasmid**, 22, 151-159.

8 - (1990) Influence of genetic markers and of the fusing agent polyethylene glycol on chromosomal gene transfer in *Spiroplasma citri*. BARROSO G., SALVADO J. C. and J. LABARÈRE. **Current Microbiology**, 20, 53-56.

9 - (1990) Evidence for viral and naked double-stranded RNAs in the Basidiomycete *Agrocybe aegerita*. BARROSO G. and J. LABARÈRE. **Current Genetics**, 18, 231-237.

10 - (1992) The mitochondrial genome of the Basidiomycete *Agrocybe aegerita*: molecular cloning, physical mapping and gene location. MOULINIER T., BARROSO G. and J. LABARÈRE. **Current Genetics**, 21, 499-505.

11 - (1992) Involvement of a large inverted repeated sequence in a recombinational rearrangement of the mitochondrial genome of the higher fungus *Agrocybe aegerita*. BARROSO G., MOULINIER T. and J. LABARÈRE. **Current Genetics**, 22, 155-161.

12 - (1993). Transcription of naked double-stranded RNA molecules in a fraction containing large vesicles plus mitochondria from the Basidiomycete *Agrocybe aegerita*. BARROSO G. and J. LABARÈRE. **Journal of General Microbiology**, 139, 287-293.

13 - (1995). Wide distribution of mitochondrial genome rearrangements in wild strains of the cultivated Basidiomycete *Agrocybe aegerita*. BARROSO G., BLES S. and J. LABARÈRE. **Applied and Environmental Microbiology**, 61, 1187-1193.

14 - (1997). DNA sequence and secondary structure of the mitochondrial small subunit ribosomal RNA coding region including a group-IC2 intron from the Basidiomycete *Agrocybe aegerita*. GONZALEZ P., BARROSO G. and J. LABARÈRE. **Gene**, 184, 55-63.

15 - (1997). Genetic Evidence for Nonrandom Sorting of Mitochondria in the

- Basidiomycete *Agrocybe aegerita*. BARROSO G. and J. LABARÈRE. **Applied and Environmental Microbiology**, 63, 4686-4691.
- 16 - (1998). Molecular analysis of the split *cox1* gene from the Basidiomycota *Agrocybe aegerita*: Relationship of its introns with homologous Ascomycota introns and divergence levels from common ancestral copies. GONZALEZ P., BARROSO G. and J. LABARÈRE. **Gene**, 220, 45-53.
- 17 - (1999) Molecular cloning, sequence and transcriptional expression of *Aa-polB*, a mitochondrial gene encoding a family B DNA polymerase from the edible Basidiomycete *Agrocybe aegerita*. BOIS F., BARROSO G., GONZALEZ P., and J. LABARÈRE. **Molecular and General Genetics**, 261, 508-513.
- 18 - (1999) Molecular gene organization and secondary structure of the mitochondrial large subunit ribosomal RNA from the cultivated Basidiomycota *Agrocybe aegerita*: a 13 kbp gene possessing six unusual nucleotide extensions and eight introns. GONZALEZ P., BARROSO G. and J. LABARÈRE. **Nucleic Acids Research**, 27, n°7, 1754-1761.
- 19 - (2000) Molecular cloning of a widely distributed microsatellite Core sequence from the cultivated mushroom *Agaricus bisporus*. BARROSO G., SONNENBERG A. M., VAN GRIENSVEN L. J. L. D. AND J. LABARÈRE. **Fungal Genetics and Biology**, 31, 115-123.
- 20 - (2001) Duplication of a truncated paralog of the family B DNA polymerase gene *Aa-polB* in the *Agrocybe aegerita* mitochondrial genome. BARROSO G., BOIS F. AND J. LABARÈRE. **Applied and Environmental Microbiology**, 67, 1739-1743.
- 21 - (2003) Secondary structure and molecular evolution of the mitochondrial small subunit ribosomal RNA in Agaricales (Euagarics clade, Homobasidiomycota). BARROSO G., SIRAND-PUGNET P., MOUHAMADOU B AND J. LABARÈRE. **Journal of molecular Evolution**, 57, 383-396.
- 22 - (2004) Molecular evolution of a mitochondrial *polB* gene, encoding a family B DNA polymerase, towards the elimination from *Agrocybe* mitochondrial genomes. MOUHAMADOU B.; BARROSO G. AND J. LABARÈRE. **Molecular Genetics and Genomics**, 272, 257-263.
- 23 – (2006) The mitochondrial apocytochrome b genes of two *Agrocybe* species suggest lateral transfers of group I homing introns among phylogenetically distant fungi. MOUHAMADOU B., FÉRANDON C., BARROSO G., LABARÈRE J. **Fungal Genetics and Biology**, 43(3): 135-145.
- 24 – (2006) A CAPS test allowing a rapid distinction of *Penicillium expansum* among

fungal species collected on grape berries, inferred from the sequence and secondary structure of the mitochondrial SSU-rRNA. GARCIA C., LA GUERCHE S., MOUHAMADOU B., FERANDON C., LABARERE J., BLANCARD D., BARROSO G. **Int J Food Microbiol** 111(3): 183-190.

25 – (2007) Unusual accumulation of polymorphic microsatellite loci in a specific region of the mitochondrial genome of two mushroom-forming *Agrocybe* species. MOUHAMADOU B., FÉRANDON C., CHAZOULE S., BARROSO G. **FEMS Microbiol Lett** 272: 276-281.

26 – (2008) The *Agrocybe aegerita* mitochondrial genome contains two inverted repeats of the *nad4* gene arisen by duplication on both sides of a linear plasmid integration site. FERANDON C., EL KIRAT CHATEL S., CASTANDET B., CASTROVIEJO M., BARROSO G. **Fungal Genetics and Biology**, 45: 292-301.

27 - (2010) The *Agaricus bisporus cox1* gene : the longest mitochondrial gene and the largest reservoir of mitochondrial group I introns. C. Ferandon, S. Moukha, P. Callac, J-P. Benedetto, M. Castroviejo and G. Barroso. **PLoS One** 2010 Nov18;5(11):e14048.

28 - (2010) Performance of the COX1 gene as a marker for the study of metabolically active Pezizomycota and Agaromycetes fungal communities from the analysis of soil RNA. C. Damon, G. Barroso, C. Ferandon, J. Ranger, L. fraissinet-Tachet and R. Marmeisse. **FEMS Microbiol. Ecol.** 74(3): 693-705.

29- (2013) A Molecular contribution to the assessment of the *Tricholoma equestre* species complex . S. Moukha, C. Ferandon, E. Beroard, J. Guinberteau, B. Castandet, . P. Callac, E. Creppy and G. Barroso. **Fungal Biology** 117: 145-155..

30 - (2013) The 135 kbp mitochondrial genome of *Agaricus bisporus* is the largest known eukaryotic reservoir of group I introns and plasmid-related sequences. C. Ferandon, Jianping Xu and G. Barroso.. **Fungal Genetics and Biology**. 55: 85-91.

31 - (2015) The intraspecific variability of mitochondrial genes of *Agaricus bisporus* reveals an extensive group I intron mobility combined with low nucleotide substitution rates. B. Jalalzadeh, I.Carras Saré, C. Ferandon, P. Callac, M. Farsi, JM Savoie and G. Barroso.. **Current Genetics**. 61: 87-102.

## Reviews

- (1995). Review - Molecular organization and heredity of the mitochondrial genome in Basidiomycetes. BARROSO G. and J. LABARÈRE. **Mycoscience**, 36, 135-142.
- (1998) Genetics and Molecular Biology of the edible mushroom *Agrocybe aegerita* LABARÈRE J., BARROSO G., GONZALEZ P., SANTOS C. and P. SIRAND - PUGNET. Article de revue in "**Recent Research Developments in Microbiology**" (India), vol. II.

## Proceedings of international congress

- (1984) Ultraviolet radiation mutagenesis and recombination in *Spiroplasma citri*. LABARÈRE J. and G. BARROSO. **Israël Journal of Medical Sciences**, 20, 826-829.
- (1987) Localization of Spiralin in *Escherichia coli* cells transformed with the recombinant plasmid pESI. BLANCHARD A., WROBLEWSKI H. and G. BARROSO. **Israël Journal of Medical Sciences**, 23, 414-417.
- (1988) "Biologie moléculaire", Hanoi, Maison des éditions scientifiques et techniques de la République Socialiste du Vietnam, édité avec le concours des Services Culturels de l'Ambassade de France en RSV, dans le cadre de la Coopération franco-vietnamienne entre les Universités de Paris-sud-Orsay et d'Ho Chi Minh Ville.
- (1990) DNA repair in UV-irradiated *Spiroplasma citri* cells. BARROSO G. and J. LABARÈRE. **Zentralblatt für Bakteriologie**, 20, 885-887.
- (1991) Mitochondrial DNA of the mushroom *Agrocybe aegerita* : Characterization and cloning in *Escherichia coli*. BARROSO G. and J. LABARÈRE. **Science and Cultivation of Edible Fungi (J. Maher ed.)**, I, 31-35.
- (1995) A "miniprep" method for RFLP analysis and dsRNAs detection perfected in the cultivated fungus *A. aegerita*. BARROSO G., PÉRENNES D. and J. LABARÈRE. **Mushroom Science**, XIV, vol. 1, 87-94.
- (1995) Variability of the mitochondrial genome of the Basidiomycete *A. aegerita* : evidence for molecular rearrangements involving two large regions of the mtDNA. GONZALEZ P., BARROSO G. and J. LABARÈRE. **Mushroom Science**, XIV, vol. 1, 95-102.
- (1996). Wild-type strains of *Pleurotus* spp. and their use in breeding. LABARÈRE J., BARROSO G. and M. T. FERNANDEZ-ESPINAR. In " Culture Collections to improve the quality of life" **Proceedings of the eighth international congress for culture collections** (R.A. Samson, D. van der Mei, A. H. Stouthamer, eds), Baarn, The Netherlands, pp. 308-312.

- (1998). The mitochondrial genes of the edible mushroom *Agrocybe aegerita* are split by large group I introns. GONZALEZ P. , BARROSO G. & J. LABARÈRE.. **Science and Cultivation of Mushrooms. Proceedings of 98' Nanjing International Symposium** (Nanjing, China). 111-120.
- (2000) Phylogenetic analysis of the *Agrocybe aegerita nd6* gene. GONZALEZ P., BARROSO G. and J. LABARÈRE. **Science and Cultivation of Edible Fungi** (L. J. L. D. Van Griensven, ed), A. A. Balkema, Rotterdam, The Netherlands.pp. 215-221.
- (2000) Distribution and transmission of *Agrocybe aegerita* dsRNAs. BARROSO G. and J. LABARÈRE. **Science and Cultivation of Edible Fungi** (L. J. L. D. Van Griensven, ed), A. A. Balkema, Rotterdam, The Netherlands.pp. 271-280.
- (2011) Barroso G., Ferandon C., Callac P. From the comparative analysis of fungal mitochondrial genes to the development of taxonomic and phylogenetic tools. In: Proceedings of the Seventh International Conference on Mushroom Biology and Mushroom Products. (J.M. Savoie, M. Foulongne-Oriol, M. Largeteau, G. Barroso Eds). Vol 1. pp 91-99. [http://www.wsbmp.org/Previous\\_Conference\\_7.html](http://www.wsbmp.org/Previous_Conference_7.html)
- (2011) Callac P., Guinberteau J., Ferandon C., Barroso G. (2011) An Asian commercial strain of *Agrocybe chaxingu* and a European wild strain of *Agrocybe cylindracea* exhibiting morphological difference and high genetic divergence are interfertile. In: Proceedings of the Seventh International Conference on Mushroom Biology and Mushroom Products. (J.M. Savoie, M. Foulongne-Oriol, M. Largeteau, G. Barroso Eds). Vol 1. pp 113-122. INRA, France.  
[http://www.wsbmp.org/Previous\\_Conference\\_7.html](http://www.wsbmp.org/Previous_Conference_7.html)

### **Participation in international congresses**

- (1983) International Symposium on Pathogenicity of Mycoplasmas, Bordeaux (France), (1 communication orale: co-signataire).
- (1984) 5<sup>th</sup> International Congress of the International Organization of Mycoplasmology, Jérusalem (Israël), (2 communications orales: co-signataire).
- (1988) 7<sup>th</sup> International Congress of the International Organization of Mycoplasmology, Vienne (Autriche), (2 posters: présentation).
- (1991) 13<sup>th</sup> International Mushroom Congress, Dublin (Irlande), (1 communication orale: présentation).

- (1994) 2<sup>nd</sup> International Symposium of the Mycological Society of Japan, Sendai (Japan), (1 communication orale: co-signataire).
- (1994) 2<sup>nd</sup> European Conference on Fungal Genetics, Lunteren (Pays-Bas), (1 poster: présentation).
- (1995) 14<sup>th</sup> International Mushroom Congress, Oxford (Royaume-Uni), (1 communication orale + 2 posters: présentation).
- (1995) Genetics and Cellular Biology of Basidiomycetes III, Londres (Royaume-Uni), (1 communication orale: présentation).
- (1996) 8<sup>th</sup> International Congress on Culture Collections, (Pays-Bas), (1 communication orale: co-signataire).
- (1997) 6<sup>th</sup> National Congress of Mycology, Tapachula (Chiapas, Mexique), (1 présentation orale + 1 poster: co-signataire).
- (1998) 98<sup>th</sup> Nanjing International Symposium on Sciences and Cultivation of Mushrooms, Nanjing (Chine), (1 communication orale: co-signataire).
- (1998) Genetics and Cellular Biology of Basidiomycetes IV, Nijmegen (Pays-Bas), (1 poster: co-signataire).
- (2000) 15<sup>th</sup> International Mushroom Congress, Maastricht (the Netherlands), (2 communications orales: co-signataire).
- (2006) Mycologiades internationales de Bellême (France). (1 communication orale: présentation).
- (2011) Seventh International Conference on Mushroom Biology and Mushroom Products. Arcachon (France) (2 Communications orales: 1 presentation et 1 co-signataire)

### **Patents**

- (1984) Brevet INRA: "Fragments d'ADN de Spiroplasma, plasmides recombinants et microorganismes le contenant, synthétisant notamment la Spiruline", (co-signataire).