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Academic qualifications:

1992 - PhD in Biology - Microbial Biotechnology, University of Lisbon.

1980 - Master in Biological Engineering, New University of Lisbon and Gulbenkian Institute of Sciences

1977 - Bachelor's degree in Biology, Science Faculty of the University of Lisbon.

Publications in scientific journals with impact factor

2018 - Melo J, Souza S., Canellas L, Aguiar N. O, Santana M., Ramos A. Carvalho, L., **Carolino M.**, Correia P., Cruz C. Conventional farming disrupts cooperation among phosphate solubilizing bacteria isolated from *Carica papaya*'s rhizosphere. *Applied Soil Ecology* Vol 124:284 – 288 (IF 2.916).

2017 – Fonseca M., Dias T., **Carolino M.**, Costa França M. G., Cruz C. Belowground microbes mitigate plant-plant competition. *Plant Science* Vol 262: 175 – 181 (IF 3.712).

2016 Melo, J., **Carolino, M.**, Carvalho, L., Correia, P., Tenreiro, R., Chaves, S., Meleiro, A.I., Souza, S.B., Dias, T., Cruz, C. & Ramos, A.C. Crop management as a driving force of plant growth promoting rhizobacteria physiology. *SpringerPlus*, 5(1) 1574, 1-16. DOI:10.1186/s40064-016-3232-z (IF2016 1,130)

2016 - C. Lima; J. Madureira; R. Melo; **M. M. Carolino**; J. P. Noronha; F. M. A. Margaça; S. Cabo Verde. A biodegradation bench study of cork wastewater using gamma radiation. *Journal of Advanced Oxidation Technologies*, Vol. 19, No. 1. IF 0.988.

2014 - Cassia S da Silva M, Paula T A, Moreira B C, **Carolino M**, Cruz C, Bazzolli D M S, Silva C, Kasuya M C. Dynamic of Nitrogen-fixing bacteria in *Eucalyptus globulus* plantation. *PLoS ONE* 9(10):e111313. IF 3.73.

2014-. Fonseca Márcia B, **Carolino M.**, Dias Teresa, Cruz Cristina and França Marcel G. C.. Early growth of Brazilian tree *Dimorphandra wilsonii* is also threatened by African grass *Urochloa decumbens* *Journal of Plant Interactions*. 9 (1):92-99. Impact Factor: 0.641.

2014 - Gouveia W, Jorge T, Martins S, Meireles M, **Carolino M.**, Cruz C, Almeida TV, Araújo MEM. Toxicity of ionic liquids prepared from biomaterials. *J.Chemosphere* 104:51-56. Impact Factor: 3.634.

2013 - I. Nunes,N. Mesquita, S. Cabo Verde, **M. Carolino**, A. Portugal, ML Botelho Bioburden Assessment and Gamma Radiation Inactivation Patterns in Parchment documents. *Radiation Physics and Chemistry* 88:82-89. Impact Factor: 1.227.

2013 - I. Nunes,N. Mesquita, S. Cabo Verde, **M. Carolino**, A. Portugal, ML Botelho. Characterization of an Airborne Microbial Community: A Case Study in the Archive of the University of Coimbra, Portugal *International Biodeterioration and Biodegradation*. 79: 36–41. Impact Factor: 2.333.

2012 – I. Nunes,N. Mesquita, S. Cabo Verde, MJ Trigo, **M. Carolino**, A. Portugal, ML Botelho. Gamma radiation effects on physical properties of parchment documents: Assessment of Dmax.. *Radiation Physics and Chemistry* 81: 1943–1946. Impact Factor: 1.227.

2010 - Milhano, N., Carvalho I.L., Alves., A.S., Arroube, S., Soares, J., Rodriguez, P., **Carolino, M.**, Nuncio, M.S., Piesman, J., Sousa, R. Co-infections of *Rickettsia slovaca* and *R. helvetica* with *B. lusitaniae* in ticks collected in a Safari Park, Portugal. *Ticks and Tick-Borne Diseases* 1: 172–177. Impact Factor: 2.353.

2007 - Costa A.L., Paixão S.M, Caçador I. and **Carolino M.** - CLPP and EEA profiles of microbial communities in salt marsh sediments. *Journal of Soil and Sediments* 7(6) 418-425. Impact Factor: 1.965.

2007 - Costa, A.I., **M. Carolino** & I. Caçador - Microbial activity profiles in Tagus estuary salt marsh sediments. *Hydrobiologia* 587:169-175. Impact Factor:1.985.

2004 - P. Pereira, E. Dias, S. Franca, E. Pereira, **M. Carolino** and V. Vasconcelos - Accumulation and depuration cyanobacterial paralytic shellfish toxins by the freshwater mussel *Anodonta cygnea*. *Aquatic Toxicology* 68: 339-350. Impact Factor 3.730

Publications in scientific journals without impact factor

2014 Magro, A, Barros, G., Matos, O., **Carolino, M.**, Bastos, M. and Mexia, A. The utilization of saturated atmospheres from *Syzygium aromaticum* and *Mentha pulegium* essential oils against rice fungi. *Integrated Protection of Stored Products IOBC-WPRS Bulletin* Vol. 98, 2014 pp. 129-134

2011 Magro, A., Matos, O., Bastos, M., **Carolino, M.** and Mexia, A. The fungicide activity of clove and laurel essential oils against storage fungi. *Integrated Protection of Stored Products IOBC Bulletin*, 69: 241-246.

2011 Magro, A., Pera, S., Barata, M., **Carolino, M.**, Bastos, M., Matos, O. and Mexia, A. The incidence of fungi in stored rice. *Integrated Protection of Stored Products IOBC Bulletin*, 69: 19-24.

2007 - Magro, A.; Bastos, M.; **Carolino M.** and Mexia, A - Antifungal activity of plant extracts. *Integrated Protection of Stored Products IOBC/wprs Bulletin* vol 30 (2) Pp291-295

2006 - Magro A., Carvalho M.O., Bastos M., **Carolino M.**, Adler C. S., Timlick B. and Mexia A. - Mycoflora of stored rice in Portugal. *Proceedings of the 9th International Working Conference on Stored Product Protection*. Campinas - Brasil. Pp128-134.

Book chapters

2010 - **Carolino, M.** Fermentação industrial. In “Microbiologia Geral” Wanda Canas Ferreira, João Carlos de Sousa e Nelson Lima (eds). Lidel- Edições Técnicas Lda. Cap.25.

2007 - A. Magro, M. Barata, O. Matos, M. Bastos, **M. Carolino**, A. Mexia Fungos/Fungi. In *Contribuição para a protecção do arroz armazenado/ Contribution for integrated management of stored rice pests* (Mancini, R., Carvalho, O., Timlick, B. & Adler, C. eds.). Capítulo 1, pp1-11. Lisboa

2007 - A. Magro, M. Barata, O. Matos, A. Passarinho, I. Pires, A. Faro, **M. Carolino**, M. Bastos, A. Lima, A. Mexia . *Detecção e identificação de fungos no arroz armazenado/ Detection and identification of fungi in stored rice*. In *Contribuição para a protecção do arroz armazenado/ Contribution for integrated management of stored rice pests* (Mancini, R., Carvalho, O., Timlick, B. & Adler, C. eds.). Capítulo 1, pp12-22. Lisboa

2001 - O. Correia, A. Clemente, A.I. Correia, C. Máguas, **M. Carolino**, A.C. Afonso, M.A. Loução - Quairy rehabilitation: a case study in a ecosystem and sustainable development III, eds. Villacampa, Y. Brebbi, C. A. and Usó, J. L., pp331-346. WIT Press, Southampton , Boston.

Oral communication

2017 - Tavares João; **Carolino Manuela**; Cruz Cristina Microbial inoculants as a strategy for improving grassland productivity 16º Encontro Nacional de Ecologia. Lisboa 9 – 10 Nov.

2014 - Carvalho L, Correia P, Cerqueira F , Peixoto L, Bento F, Soares A, Reis A, **Carolino M**, Cruz C. *Interacções Planta-Microrganismos- Microrganismos e o desenvolvimento de biofertilizantes*. XV Simpósio

Luso-Espanhol de Nutrição Mineral das Plantas – NutriPlanta 2014, 6-8 December, Lisboa, Portugal.

2014 - Gouveia C., Ulm F, Dias T, **Carolino M.** Cruz C. In the quest for phosphorus: the role of P solubilizing bacteria in helping plants accessing P in an N-limited Mediterranean ecosystem. XV Simpósio Luso-Espanhol de Nutrição Mineral das Planta, Lisbon, Portugal. 2014, 6-8 December

2011 Cruz C., Dias M.T., **Carolino M.**, Martins-Loução M.A. 2011. Soil: a pillar of ecosystem functioning and a component in the social sustainable development. 2nd National Conference on Science and Technology. ENAD Luanda, Angola, 19-20 October

2011 - Cruz C., Dias M.T., **Carolino M.**, Correia P. & Martins-Loução M.A. 2011. Food security and environment sustainability: soil biodiversity may be the answer. Green Biotech. Recent trends and innovations. Rajastan, India, 11 - 12 November.

Research Projects

2016 – 2019: “BIOINVENT – Generic bio-inventory of functional soil microbial diversity in permanent grassland ecosystems across management and climate gradients”. Participant.

2016 – 2019: Designing biofertilizers by mimicking plants' recruitment of rhizospheric partners BioClub PTDC/AGRPRO/1852/2014. Participant.

2015 – 2017 Novos inoculantes microbianos para pastagens em sistemas Agro-silvo-pastoris (PRODER Cooperação para a Inovação, nº 54972). Participant.

2013-2015: TAINTLESS: Preventing wine cork flavour by using selective inhibitors of enzymes involved in biosynthesis of organic halogenated compounds". COMPETE (Programa Operacional Factores de Competitividade), QREN and European Union (Fundo Europeu de Desenvolvimento Regional). Participant.

2012 – 2015: In-Nitro: conceptualizing the effects of increased nitrogen availability in a Mediterranean ecosystem. Project ref.: PTDC/BIA-ECS/122214/2010. Participant.

2011-2013: Spheres of ecosystem response to nitrogen: a case study in a Mediterranean-type ecosystem in the southern of Portugal (SERN) Project ref.: PTDC/BIA-BEC/099323/2008. Participant.

2010 - 2013: Cultivation of Pineapple in the Azores: Research, Development and Application of Technologies and Practices to Improve Competitiveness and Quality of Production". PROCONVERGÊNCIA – EU/FEDER 000003. Participant.

Scientific training

PhD thesis

Ana Catarina Afonso - Estudo da microbiologia dos solos em pedreiras revegetadas. Supervision Prof Barea – Estacion Experimental del Zaldin - CSIC-Granada, Espanha, in collaboration with **Manuela Carolino**. Thesis concluded at June of 2011.

Ana Maria da Costa Aldir Magro - Avaliação das actividades fungistática e fungicidade de extractos de plantas e seus constituintes em produtos agrícolas secos armazenados Supervision: Prof. António Mexia - ISA/UTL and Prof. Margarida Bastos FE/UP in collaboration with **Manuela Carolino**. Thesis concluded at September of 2010.

Ana Luísa Vasconcelos Alves Figueira da Costa - Decomposição da biomassa radicular de *Spartina maritima* e *Halimione portulacoides* num sapal do estuário do Tejo: aspectos físico-químicos e microbiológicos. Supervision: Prof Isabel Caçador in collaboration with **Manuela Carolino**. Thesis concluded at July of 2007.

Master Thesis

Ricardo Nuno Jacinto Costa Galriça *Estudo da tolerância ao etanol de estirpes da cianobactérias Synechocystis sp. produtoras de bioetanol, utilizando a citometria de fluxo* Master Universidade de Lisboa, LNEG and Faculdade de Ciências – Ce3C. Supervision: **M.Carolino** and Lopes da Silva,MT. Thesis concluded at 2016.

Ana Patrícia Carvalho Correia *Produção de compostos antimicrobianos em solos supressivos: efeito da diversidade nutricional* Master Universidade de Lisboa, Faculdade de Ciências and Centro de Biologia Ambiental. Supervision: **M.Carolino** and Dr. Luís Carvalho. Thesis concluded at 2015.

Ana Soares *Efeito de interações interespecíficas de Actinobacterias na produção de compostos antimicrobianos* Master Universidade de Lisboa, Faculdade de Ciências and Centro de Biologia Ambiental. Supervision: **M.Carolino** and Dr. Ana Reis. Thesis concluded at 2015.

Luis Martins *Valorização de resíduos para a produção de biohidrogénio e ácidos orgânicos* Master Universidade de Lisboa, Faculdade de Ciências and Centro de Biologia Ambiental. Supervision: Dr. Patrícia Moura (LNEG) and **M. Carolino**. Thesis concluded at 2015.

Catarina Andreia Ricacho Gouveia *"Nitrification Control. How do the Natural ecosystem do it?". Microbiologia Aplicada* Master Universidade de Lisboa, Faculdade de Ciências. Supervision: **M.Carolino**. Thesis concluded at December 2013.

Experience as examiner

2016 - Examiner of the Master's Thesis "Biodegradation treatment of petrochemical wastewaters" present by Catarina Isabel Nunes Alexandre to the University of Lisbon, Portugal.

2015 - Examiner of the Master's Thesis "Production of lipids (for biodiesel) and carotenoids from the yeast *Rhodotorula glutinis* grown in a bench reactor, in a fed-batch system" present by João Pedro Rascão Ascensão Caldeira to the University of Lisbon, Portugal.

2015 - Examiner of the Master's Thesis "Otimização e Implementação de Novas Metodologias de Diagnóstico Microbiológico para a Produção de Vacinas de Rebanho" present by Ricardo José Laranjeira Rodrigues to the University of Lisbon, Portugal.

Dissemination activities

2018 January 29th, - "Microbiological methods to assess soil quality" - Theoretical classe for post-graduates students Soil ecology and ecosystem services - Training - CE3C.

2018 January 17 th,- "Descobrir microrganismos" - Lab activity with 50 young students from Colégio Colibri.Faculdade de Ciências da Universidade de Lisboa.

2018 February 8th and 9th –Participation in "Evento Descobre a Ulisboa" – Reitoria da Universidade de Lisboa.

2017 July - Verão UL a lab activity with young students (7º, 8º and 9º) – "Influência do arejamento no crescimento microbiano". Faculdade de Ciências da Universidade de Lisboa.

2017 September 17 th, – "A coluna de Winogradsky" Participation in Dia Internacional do MICRORGANISMO. Pavilhão do Conhecimento, Lisboa.

2018 July - Verão UL with students (9º, 10º , 11º, 12º) – Two lab activity: "Técnicas de Inoculação em

Meios de Cultura” and “Influência do arejamento no crescimento microbiano”. FCUL.

Other information:

2009 to date: Co-coordinator of the undergraduate course in Health Sciences, University of Lisbon.

2009 to date Membro da Comissão Científica e Pedagógica da LCS

2000 and 2001 Coordinator of the First and Second Courses of Diagnosis of Microbiological Water Quality, Science Faculty of the University of Lisbon (FCUL).