

CURRICULUM VITÆ

PERSONAL DATA

Full name: Susana Santos Moita de Oliveira Marques

Birth place and date: Lisboa, 17-10-1972

Nationality: Portuguese

Institution Address: LNEG, Unidade de Bioenergia, Estrada do Paço do Lumiar, 22, 1649-038 Lisboa, Portugal

e-mail: susana.marques@lneg.pt

ACADEMIC DEGREES

PhD in Biotechnology, Instituto Superior Técnico, Lisboa, Portugal (2012)

Graduation in Chemical Engineering (Biotechnology) at Instituto Superior Técnico, Lisboa, Portugal (1996)

PROFESSIONAL RESEARCH POSITIONS

Since 2009: Researcher at Laboratório Nacional de Energia e Geologia (LNEG), Unidade de Bioenergia

2002-2009: Research assistant at Instituto Nacional de Engenharia, Tecnologia e Inovação (INETI), Departamento de Biotecnologia, Unidade de Fisiologia Microbiana e Bioprocessos

1998-2002: Research trainee at INETI, Departamento de Biotecnologia, Unidade de Fisiologia Microbiana e Bioprocessos

1997-1998: Grant student from Fundação para a Ciência e Tecnologia at INETI, Departamento de Biotecnologia, Unidade de Fisiologia Microbiana e Bioprocessos

1996-1997: Grant student from Programa Jovens Técnicos para a Indústria at INETI, Departamento de Biotecnologia, Unidade de Fisiologia Microbiana e Bioprocessos

OTHER SCIENTIFIC ACTIVITIES

Co-supervising of several degree projects

Participation in the elaboration of research projects

Peer-reviewer of manuscripts submitted to international scientific journals: *Process Biochemistry*, *Applied Biochemistry and Biotechnology*, *Spanish Journal of Agricultural Research*, *Journal of Chemical Technology Biotechnology and Industrial Crops and Products*, *BioResources* and *Biotechnology & Biofuels*

PARTICIPATION IN RESEARCH PROJECTS

Project DEMA – “Direct Ethanol from MicroAlgae”, Collaborative Project (Energy.2012.3.2.1 call: Biofuels from microalgae or macroalgae), 7th Framework Programme (2013-2017)

Project PTDC/EMS-ENE/1839/2012 – BioSustain, “Sustainable mobility: Perspectives for the future of biofuel production”, Fundação para a Ciência e Tecnologia (2013-2016)

Project BioBlocks – “Creation of bio-based products as precursors for the bio-manufacturing of chemical synthesis and biomaterials” - QREN SI I&DT co-promotion (2013-2015)

Technological & Technical Assistance Contract with *RAIZ* – “Technical and Economical Assessment of Conversion of Primary Sludge from *Grupo Portucel Soporcel*: Implementation of 2G Biorefineries” (2013-2014)

Technological & Technical Assistance Contract with *GALP Energia* – “Technical Assessment of Technologies and Suppliers for Conversion of Carob Pulp into Biofuel and corresponding Life Cycle Analysis” (2012-2013)

Project PROETHANOL2G – “Integration of Biology and Engineering into an Economical and Energy-Efficient 2G Bioethanol Biorefinery”, Collaborative Project (Second Generation Biofuels - EU-Brazil Coordinated Call), 7th Framework Programme (2011-2014)

Project PTDC/AAC-AMB/100354/2008 – “Microalgae as a sustainable raw material for biofuels production (Biodiesel, Bioethanol, Bio-H₂ and Biogas)”, Fundação para a Ciência e Tecnologia (2010-2013)

Project RefinOlea - “An integrated valorization strategy for by-products of olive oil extraction industry” – QREN Programme (2010-2012)

Project ALFAETÍLICO - "Assessment of technical and economical feasibility of a biorefinery based on carob pulp through integrated upgrading of sucrose and cellulose fractions for biofuel production" – QREN Programme (2009-2011)

Project PTDC/AGR-AAM/71533/2006 – BIOREFINO, “Technical feasibility assessment of a biorefinery for bioethanol production from wheat and sorghum biomass”, Fundação para a Ciência e Tecnologia (2007-2010)

Project BIOPRODUCTION - “Sustainable Microbial and Biocatalytic Production of Advanced Functional Materials”, IP, 6th Framework - NMP Programme (2006-2009)

Project POCI/AMB/59108/2004 – BIODESULF, “Dibenzothiophene-desulphurizing bacterial process using cheap agro-industrial by-products as raw materials”, Fundação para a Ciência e Tecnologia (2006-2007)

Project POCI/AGR/56315/2004 – WINESTAR, “Mixed non-*Saccharomyces/Saccharomyces* yeast starters for high quality wines: An integrated study”, Fundação para a Ciência e Tecnologia (2005-2008)

Project POCTI/CVT/37545/2002 - “The use of a new xylooligosaccharide in the weaning diet of piglets and rabbits”, Fundação para a Ciência e Tecnologia (2002-2005)

Project POCTI/AGR/38253/2001 - “Upgrading secondary fibres with cellulose binding domains”, Fundação para a Ciência e Tecnologia (2002-2005)

Project - "Effect of cellulases, xylanases and peroxidases on lignocellulosic materials. Optimisation of enzyme production and bioconversion", Convênio CNPq-Brasil/ICCTI (2001-2003)

Project EXPOBANANA - "Upgrading banana plant by-products", Agência de Inovação, Programa IC-PME (1999-2001)

Project PM 418/98/073 – ECOCOURO, "Optimisation of production process on leather industry for by-products upgrading and minimisation of pollutants", PEDIP II Mobilizador (1997-2000)

Project "Effect of cellulases and xylanases on lignocellulosic materials", Convênio CNPq-Brasil/JNICT (Proc. No. 91.0159/95-5) (1997-2000)

Project PRAXIS/BIO/1133/95 - "Recycling and saccharification of cellulosic fibers by enzymatic methods", Fundação para a Ciência e Tecnologia (1997-2000)

PUBLICATIONS

PhD Thesis

Marques, S. (2012) "L(+)-Lactic Acid Production from Recycled Paper Sludge", PhD Thesis (Biotechnology), Instituto Superior Técnico, Lisboa

Book Chapters

Duran, N., Marques, S., Salles, B.C., Medeiros, R.G., Filho, E.X.F. (2008) "Enzimas na Indústria de Polpa e Papel". In: Enzimas em Biotecnologia. Produção, Aplicações e Mercado. Bon, E.P.S., Ferrara, M.A., Corvo, M.L. (Eds), Editora Interciência, Rio de Janeiro

Peer-reviewed journal articles

Morais, C.G., Lara, C.A., Marques, S., Fonseca, C., Lachance, M.-A., Rosa, C.A. (2013) "*Sugiyamaella xylanicola* sp. nov., a xylan-degrading yeast species isolated from rotting-wood in Brazil", *International Journal of Systematic and Evolutionary Microbiology*, 63: 2356–2360

Silva, T.L., Marques, S., Alves, L., Roseiro, J.C. (2013) "The simultaneous utilization of kinetic analysis and flow cytometry in the assessment of *Lactobacillus rhamnosus* ATCC 7469 physiological states produced by increasing oxygen limitation levels and lactic acid accumulation", *Biochemical Engineering Journal*, 74: 54-59

Gírio, F.M., Fonseca, C., Carvalheiro, F., Duarte, L.C., Marques, S., Bogel-Lukasik, R. (2010) "Hemicelluloses for fuel ethanol: A review", *Bioresource Technology*, 101: 4775-4800

Marques, S., Santos, J.A.L., Gírio, F.M., Roseiro, J.C. (2008) "Lactic Acid Production from Recycled Paper Sludge by Simultaneous Saccharification and Fermentation", *Biochemical Engineering Journal*, 41: 210-216

Marques, S. Alves, L., Roseiro, J.C., Gírio, F.M. (2008) "Conversion of Recycled Paper Sludge to Ethanol by SHF and SSF using *Pichia stipitis*", *Biomass and Bioenergy*, 32: 400-406

- Yáñez, R., Marques, S., Gírio, F.M., Roseiro, J.C. (2008) "The Effect of Acid Stress on Lactate Production and Growth Kinetics in *Lactobacillus rhamnosus* Cultures", *Process Biochemistry*, 43: 356-361
- Alves, L., Marques, S., Matos, J., Tenreiro, R., Gírio, F.M. (2008) "Dibenzothiophene Desulfurization by *Gordonia alkanivorans* strain 1B using Recycled Paper Sludge Hydrolyzate", *Chemosphere*, 70: 967-973
- Moura, P., Marques, S., Alves, L., Freire, J.P.B., Cunha, L. F., Esteves, M.P. (2007) "Effect of Xylooligosaccharides from Corn Cobs Autohydrolysis on the Intestinal Microbiota of Piglets after Weaning", *Livestock Science*, 108: 244-248
- Duarte, L.C., Carvalheiro, F., Lopes, S., Marques, S., Parajó, J.C., Gírio, F.M. (2004) "Comparison of Two Posthydrolysis Processes of Brewery's Spent Grain Autohydrolysis Liquor to Produce Pentose-Containing Culture Media", *Applied Biochemistry and Biotechnology*, 113-116: 1041-1058
- Nascimento, R.P., Marques, S., Alves, L., Gírio, F.M., Amaral-Collaço, M.T., Sacramento, D.R., Bon, E.P.S., Coelho, R.R.R. (2003) "A novel strain of *Streptomyces malaysiensis* isolated from Brazilian soil produces high titres of endo- β -1,4-xylanase", *World Journal of Microbiology & Biotechnology*, 19: 879-882
- Marques, S., Pala, H., Alves, L., Amaral-Collaço, M.T., Gama, F.M., Gírio, F.M. (2003) "Characterisation and Application of Glycanases Secreted by *Aspergillus terreus* CCMI 498 and *Trichoderma viride* CCMI 84 for Enzymatic Deinking of Mixed Office Wastepaper", *Journal of Biotechnology*, 100: 209-219
- Nascimento, R.P., Coelho, R.R.R., Marques, S., Alves, L., Gírio, F.M., Bon, E.P.S., Amaral-Collaço, M.T. (2002) "Production and Partial Characterisation of Xylanase from *Streptomyces* sp. Strain AMT-3 Isolated from Brazilian Cerrado Soil", *Enzyme and Microbial Technology*, 31: 549-555
- Marques, S., Alves, L., Ribeiro, S., Gírio, F.M., Amaral-Collaço, M.T. (1998) "Characterization of a Thermotolerant and Alkalotolerant Xylanase from a *Bacillus* sp.", *Applied Biochemistry and Biotechnology*, 73: 159-172

PRIZES

Honour Mention in the Green Project Awards 2009 - category of Research and Development - Project untitled "Upgrading of Wastes from the Pulp and Paper Industry under the Biorefinery Concept"

December 2013