

Curriculum Vitae **Elisabete Coelho**

Personal Data:

Full name: Elisabete Verde Martins Coelho

Date and place of birth: 16 October 1977, Leiria, Portugal

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Degrees:

Degree in Chemistry - Branch of Biochemistry and Food Chemistry (University of Aveiro, Portugal - 2001).

PhD in Chemistry, Branch of Food Chemistry (University of Aveiro – 15-12-2010) under the supervision of Dr. Manuel António Coimbra (University of Aveiro, Portugal) and Dr. Sílvia Rocha (University of Aveiro, Portugal). Title of the thesis: Relationship between the aroma and foam of sparkling wines with the oenological potential of grapes and wines (Portuguese).

Relevant jobs and tasks:

Pos-Doc position in Chemistry Department of the University of Aveiro, since 05/03/2018 to present, Post-Doc fellow at the project POTATOPLASTIC – Development of a biodegradable bioplastic compound based on potato byproducts (POCI-01-0247-FEDER- 017938).

Pos-Doc position in Chemistry Department of the University of Aveiro (13/06/2017- 04/03/2018), Post-Doc fellow at the project ESSENCE-ResPoStA@UA- Study of extraction conditions and polysaccharide profiles that may be additives for a new coffee beverage with functional properties

Pos-Doc position in Chemistry Department of the University of Aveiro (FCT grant, 2011-2017), in the Valuation of by-product from agro-food industry – Extraction of polysaccharides with bioactive properties for use as food ingredients.

Scientific research grants at Chemistry Department of the University of Aveiro (1/12/2001 – 12/01/2005). Scientific research in a service supplied by the University of Aveiro for a wine company, at Chemistry Department of the University of Aveiro (1/06/2005 – 31/12/2005).

Supervisor of PhD students – 2 (ongoing) / MSc students – 22 (19 finished) / BSc students – 18/ Research fellow students - 11.

Member of the Portuguese Society of Chemistry – Food Chemistry and Carbohydrates Groups. Member of the Portuguese Society of Biotechnology. Member of the Research Unit “Organic Chemistry, Natural Products and Foodstuffs”. Member of the Biochemistry and Food Chemistry Group of the University of Aveiro.

Reviewer for 10 scientific journals.

Jury of master thesis – 13: examiner (3), supervisor (10).

Research Projects:

Participant in research projects funded by different Portuguese entities and industry, including FCT/CAPES, QREN, P2020.

Coordinator (1):

Project de I&DT “Yeast4FoodMed - Valuation of brewers spent yeast polysaccharides for food and biomedical applications”, reference POCI-01-0145-FEDER-030936, coordinated by University of Aveiro in collaboration with University Nova of Lisbon, and IBMC from University of Porto. Total funding (€): 238,739.25; Funding UA (€):202,989.25.

Member of research team (13):

Project I&DT Co-Promotion, COMPETE, Portugal2020, *BagaConValor - Criação de valor no processo tecnológico de produção de sumo concentrado de baga de sabugueiro*, Project n. 033558I; Funding UA (€): 230,727.01.

Project de I&DT “OH2O - Ohmic heating for improved green extraction of seaweeds' compounds” (POCI-01-0145-FEDER-029145); Funding UA(€): 50,800.00.

Project I&DT Co-Promotion, COMPETE, Portugal2020, *MobFood: Mobilização de conhecimento científico e tecnológico em resposta aos desafios do mercado agroalimentar*, Project n. 24524, Funding UA (€): 127,653.73.

Project de I&DT PDR2020-101-031828, Parceria n. - 94 / Iniciativa n. – 189, 1.0.1 - Grupos Operacionais- n. - 01/ Ação 1.1/2016, *Waste2Value - Valuation of agricultural by-products for animal feed, biodegradable plastics and treatment of animal effluents*. Funding to UA (€):129,698.84.

Project I&DT Co-Promotion, COMPETE, Portugal2020 (POCI-01-0247-FEDER-003419), SHARP - Seaweed for Healthier Traditional Products. Funding to UA (€):284,968.77.

Bilateral cooperation Portugal-Brazil (FCT/CAPES) (2013-2015), “Nanotechnological systems based in biocompatible ingredients: characterization, controlled release and *in vitro* digestion”. Collaboration with Universidade do Minho, Universidade de Aveiro, and Universidade Estadual de Campinas. Funding to UA (€): 4,500.0 €

Project I&DT individual QREN (project n. 34048), *YoLP* – YourLunchPal. Funding (€): 64,624.8 €

Project I&DT Co-Promotion, QREN (project n. 38162), *ProfitApple* - Integração da produção de sumos concentrados de maçã com a valorização dos seus subprodutos. Funding (€): 154,051.89.

Project de I&DT de empresas individuais QREN, Concurso 17/SI/2011, *Coffee Art* - Investigação fundamental sobre as características de valor acrescentado no ciclo do café. Funding (€): 150,000.00.

Protols with the industry Mealfood, Lda. “Preparação de pastéis de nata prontos a consumir por aquecimento em forno de micro-ondas”. Funding (€): 8,175.00.

Protols with the industry Beyondleaves, Lda. “Development and qualification of sauces and ice creams”. Funding (€) 12,300.00.

Project I&DT, Vales I&D, Portugal2020, Project n. 22978, ValSulf@Indumape - Valorização do dióxido de enxofre resultante do processo de dessulfitação de mostos amuados; Funding (€): 20,000.00.

PROVE IT, projeto GAPI 3 - Rede de Apoio à Inovação e ao Empreendedorismo, QREN/COMPETE, “Extensão da validade dos pastéis *ready to eat* para micro-ondas”. Funding (€): 4,000.00.

Principal research interests:

Food chemistry and biochemistry, carbohydrate chemistry, polysaccharides chemistry; structural analysis; volatile compounds; by-products valuation, food ingredients.

PUBLICATIONS

Patents (1); Papers cited on Journal Citation Reports (23); Papers in national Journals (4)

Reviews in scientific text books (3)

Proceedings (19), abstracts (68), posters (63), and oral communications (24).

Patents (1)

M. A. Coimbra, E. Coelho, A. R. Bastos, F. Santos, “Formulations with hydrocolloids for the preparation of custard tarts ready for consumption by heating in microwave oven and process for their production” WO2015/136442.

Papers cited on Journal Citation Reports (23, 515 citations, h index -13)

- 23- C. Amorim, S. C. Silvério, R. F. S. Gonçalves, A. C. Pinheiro, S. P. Silva, E. Coelho, M. A. Coimbra, K. L. J. Prather, L. R. Rodrigues, Downscale fermentation for xylooligosaccharides production by recombinant *Bacillus subtilis* 3610, *Carbohydr. Polym.* 205 (2019) 176-183.
- 22- T. Ribeiro, V. Cardoso, L.M.A. Ferreira, M.M.S. Lordelo, E. Coelho, A.S.P. Moreira, M.R.M. Domingues, M.A. Coimbra, M.R. Bedford, C.M.G.A. Fontes, Xylo-oligosaccharides display a prebiotic activity when used to supplement wheat or corn-based diets for broilers, *Poult. Sci.* (2018). DOI: <https://doi.org/10.3382/ps/pey342>.
- 21- C. Amorim, S. C. Silvério, S. P. Silva, E. Coelho, M. A. Coimbra, K. L. J. Prather, L. R. Rodrigues, Single-step production of arabino-xylooligosaccharides by recombinant *Bacillus subtilis* 3610 cultivated in brewers’ spent grain, *Carbohydr. Polym.* 199 (2018) 546-554.
- 20- M. G. Cruz, R. Bastos, M. Pinto, J. M. Ferreira, J. F. Santos, D. F. Wessel, E. Coelho, M. A. Coimbra, Waste Mitigation: from an effluent of apple juice concentrate industry to a valuable ingredient for food and feed applications, *J. Clean. Prod.* 193 (2018) 652-660.
- 19- C. Nobre, S.C. Sousa, S.P. Silva, A.C. Pinheiro, E. Coelho, A.A. Vicente, A.M.P. Gomes, M.A. Coimbra, J.A. Teixeira, L.R. Rodrigues, In vitro digestibility and fermentability of fructo-oligosaccharides produced by *Aspergillus ibericus*, *J. Funct. Foods* 46 (2018) 278-287.
- 18- G. R. Lopes, A. S. Ferreira, M. Pinto, C. P. Passos, E. Coelho, C. Rodrigues, C. Figueira, S. M. Rocha, F. M. Nunes, M. A. Coimbra, Carbohydrate content, dietary fibre and melanoidins: Composition of espresso from single-dose coffee capsules, *Food Res. Inter.* 89 (2016) 989-996.
- 17- E. Coelho, M.A.M. Rocha, A.S.P. Moreira, M.R.M. Domingues, M.A. Coimbra, Revisiting the structural features of arabinoxylans from brewers' spent grain, *Carbohydr. Polymers* 139 (2016) 167–176.
- 16- S. F. Reis, E. Coelho, M. A. Coimbra, N. Abu-Ghannam, Influence of grain particle sizes on the structure of arabinoxylans from brewer's spent grain, *Carbohydr. Polymers* (2015), doi:10.1016/j.carbpol.2015.05.031.
- 15- E. Coelho, M. Pinto, R.J.B. Pinto, C.S.R. Freire, M.A. Coimbra, Polysaccharide characterization of brewers spent yeast insoluble residue after chlorite oxidation treatment, *Trends in Carbohydrate Research*, 7 (2015) 33-40.
- 14- R. Bastos, E. Coelho, M.A. Coimbra, Modifications of *Saccharomyces pastorianus* cell wall polysaccharides with brewing process, *Carbohydr. Polymers* 124 (2015) 322-330.
- 13- S. F. Reis, E. Coelho, M. A. Coimbra, N. Abu-Ghannam, Improved efficiency of brewer’s spent grain arabinoxylans by ultrasound-assisted extraction, *Ultrason. Sonochem.* 24 (2015) 155–164.
- 12- M. Pinto, E. Coelho, A. Nunes, T. Brandão, M. A. Coimbra, Valuation of brewers spent yeast polysaccharides: a structural characterization approach, *Carbohydr. Polymers* 116 (2015), 215-222.

- 11- E. Vieira, M.A.M. Rocha, **E. Coelho**, O. Pinho, J.A. Saraiva, I.M.P.L.V.O. Ferreira, M.A. Coimbra, Valuation of brewer's spent grain using a fully recyclable integrated process for extraction of proteins and arabinoxylans, *Ind. Crop. Prod.*, 52 (2014) 136-143.
- 10- **E. Coelho**, M. A. M. Rocha, J. A. Saraiva, Manuel A. Coimbra, Microwave superheated water and dilute alkali extraction of brewers' spent grain arabinoxylans and arabinoxyloligosaccharides, *Carbohydr. Polym.*, 99 (2014) 415-422.
- 9- **E. Coelho**, S.M. Rocha, M.A. Coimbra, Foamability and Foam Stability of Molecular Reconstituted Model Sparkling Wines, *J. Agric. Food Chem.* 59 (2011) 8770.
- 8- **E. Coelho**, A. Reis, M.R.M. Domingues, S.M. Rocha, M.A. Coimbra, Synergistic Effect of High and Low Molecular Weight Molecules in the Foamability and Foam Stability of Sparkling Wines, *J. Agric. Food Chem.* 59 (2011) 3168.
- 7- S.M. Rocha, P. Coutinho, **E. Coelho**, A.S. Barros, I. Delgadillo, M.A. Coimbra, Relationships between the varietal volatile composition of the musts and white wine aroma quality. A four year feasibility study, *LWT – Food Science and Technology*, 43 (2010) 1508.
- 6- **E. Coelho**, M.A. Coimbra, J.M.F. Nogueira, S.M. Rocha, Quantification approach for assessment of sparkling wine volatiles from different soils, ripening stages, and varieties by stir bar sorptive extraction with liquid desorption, *Anal. Chim. Acta*, 635 (2009) 214.
- 5- **E. Coelho**, R. Perestrelo, N. Neng, J.S. Câmara, M.A. Coimbra, J.M.F. Nogueira, S.M. Rocha, Optimisation of stir bar sorptive extraction with liquid desorption combined with large volume injection-gas chromatography-quadrupole mass spectrometry for the determination of volatile compounds in wines, *Anal. Chim. Acta*, 624 (2008) 79.
- 4- **E. Coelho**, S.M. Rocha, A.S. Barros, I. Delgadillo, M.A. Coimbra, Screening of variety- and pre-fermentation-related volatile compounds during ripening of white grapes to define their evolution profile, *Anal. Chim. Acta*, 597 (2007) 257.
- 3- S.M. Rocha, **E. Coelho**, J. Zrostlíková, I. Delgadillo, M.A. Coimbra. Comprehensive two-dimensional gas chromatography with time-of-flight mass spectrometry of monoterpenoids as a powerful tool for grape origin traceability, *J. Chromatogr. A*, 1161 (2007) 292.
- 2- **E. Coelho**, S.M. Rocha, I. Delgadillo, M.A. Coimbra. Headspace SPME applied to varietal volatile components evolution during *Vitis vinifera* L. cv. 'Baga' ripening. *Anal. Chim. Acta*, 563 (2006) 204.
- 1- M.A. Coimbra, A.S. Barros, **E. Coelho**, F. Gonçalves, S.M. Rocha, I. Delgadillo. Quantification of polymeric mannose in wine extracts by FT-IR spectroscopy and OSC-PLS1 regression. *Carbohydr. Polym.*, 61 (2005) 434.

Aveiro, November 2018