

Curriculum Vitae

Name: Ana Maria de Jesus Bispo Varela Coelho

(ResearcherID: H-8885-2012) (Orchid ID: 0000-0002-6143-4203)

1. Date of birth: May 2, 1964

2. Nationality: Portuguese

3. Institutional address: MostMicro Unit, Instituto de Tecnologia Química e Biológica António Xavier, Universidade Nova de Lisboa, Av República, 2780-157, Oeiras, Portugal

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6. Main scientific areas of research: proteomics, metabolomics, proteogenomics, mass spectrometry, tissue regeneration, marine organisms, host-pathogen interactions

7. Academic degrees, fields of study, awarding institutions

1987: Degree in Biochemistry, FCUL- University of Lisbon, Portugal

1998: Ph. D. in Chemistry (Biochemistry), "Determination and analysis of the tridimensional structure of desulfoferrodoxin isolated from Desulfovibrio desulfuricans ATCC27774", University of Évora, Portugal

8. Present position, institution, starting date

Since 2017: Assistant Researcher with tenure, ITQB NOVA

Since 2015: Proteomics of Non-Model Organisms Laboratory Coordinator, ITQB NOVA

Since 2019: Member of the Pedagogical Council for the Master on Biochemistry for Health, ITQB/FCT/FCM, Portugal

Since 2020: Member of the Editorial Board of the International Journal of Molecular Sciences, MDPI Publisher

Since 2022: Review Editor of the Editorial Board of Marine Science, Frontiers.

9. Previous positions, institutions, dates, in reverse chronological order

2002-2015: Mass Spectrometry Laboratory Coordinator, ITQB-UNL

2006-2012: Technical responsible of Mass Spectrometry Laboratory – Analytical Services Unit certified in Good Laboratory Practices according with OCDE principles, ITQB-UNL, Lisbon

2005-2013: Representative in the National Network for Mass Spectrometry, ITQB-UNL, Lisbon

2002-2010: Invited Assistant Professor, ITQB-UNL, Lisbon

1998-2010: Assistant Professor, University of Évora, Évora

1990-1998: Professor Assistant, University of Évora, Évora

10. Other management activities

2019-2021: HUPO councillor in representation of European Proteomic Association (EUPA)
Appointed as diversity representative ratified by Electorate.

Since 2019: Vice-President of the Portuguese Proteomics Association - Rede ProCura, the official representative member of Portugal in the European Proteomics Association (EuPA)

2017-2021: Member of the Management Committee and Working Group Coordinator of “Stem cells of marine/aquatic invertebrates: from basic research to innovative applications”, Cost Action CA16203.

2011-2015: Member of the Management Committee of “Mass Spectrometry Imaging: New Tools for Healthcare Research”, Cost Action BM1104.

2012-2019: Treasurer of the Portuguese Proteomics Association - Rede ProCura

2009: Co-founder of the Portuguese Proteomics Association - Rede ProCura, the official representative member of Portugal in the European Proteomics Association (EuPA)

2007-2013: Coordinator of the Working Group “Know-how Exchange” from National Network for Mass Spectrometry

2002-2006: ITQB/UNL Infra-Structure Support Committee Member

2003-2005: ITQB/UNL Analytical Services Committee Member

11. Research projects

EUROPEAN PROJECTS

2022-2023: “Metabolic model building for commensal and pathogenic *Staphylococcus epidermidis* strains”, SymbNet Project (Genomics and Metabolomics in a Host-Microbe Symbiosis Network Project Coordinated by IGC-UE-Horizon 2020-952537) PhD Award to Elisabete Morais

2017-2022: “Stem cells of marine/aquatic invertebrates: from basic research to innovative applications”, Cost Action CA16203. (Portuguese Representative and Working Group Coordinator)

2013-2016: “TBomics - an OMICS approach for diagnosing tuberculosis”, New INDIGO Partnership Programme on Biotechnology applied to Human Health (INDIGO-DBT2-062), ERA-NET Project, (European Coordinator)

2013-2016: EPIGENESIS - One Health approach to integrate Guadeloupe research on vector-borne and emerging diseases in the ERA: from the characterization of emergence mechanisms to innovative approaches for prediction and control (FP7-REGPOT-2012-2013-1), (European Partner)

2012-2013: “Converting C3 to C4 photosynthesis for sustainable agriculture” (FP 7th- 289582) (Researcher)

2011-2015: “Mass Spectrometry Imaging: New Tools for Healthcare Research”, Cost Action BM1104 (Portuguese representative)

2010 – 2014: “Biological adhesives: from biology to biomimetics”, Cost Action TD0906 (ITQB representative)

2010-2014: "Farm Animal Proteomics", Cost Action FA1002 (ITQB representative)

INTERNATIONAL NETWORKS

2012: “Novel Probio – nuevos productos para alimentación animal”, CYTED Network

INTERNATIONAL BILATERAL COLLABORATIONS

2019-2021: Transnational Cooperation Portugal/France – Pessoa Program “Identification of putative bacterial targets for the development of precision antimicrobials against pathogenic *S. epidermidis* – a strategy to prevent medical device associated infections”, supported by FCT/Campusfrance

2014-2015: Collaborative Project “Digging Label-free high resolution MS”, supported by Transbio-SUDOE

2012-2013: Luso-French Integrated Action with CIRAD “Identification of Rickettsiales Ehrlichia ruminantium outer membrane proteins using a proteomic strategy”, supported by CRUP, TC-04/12

2011-2012: Luso-Spanish Integrated Action with University Autónoma de Barcelona “Proteomic study of the cell mechanisms involved in the aggregation of yeast proteins”, supported by CRUP Ref: E-36/11

2011-2012: Luso-Slovakian Bilateral Collaboration: “Study of evasion strategies from the complement system by *Borrelia e Francisella*” supported by FCT Ref: 441.00

NATIONAL PROJECTS, since 2010

2017-2020: “Omics platform for the prevention and control of infections and antimicrobials resistance – Oneida” SAICTPAC/0015/2015

2016-2017: “A proteogenomics approach towards the understanding of *S. epidermidis* pathogenicity” Inter-thematic project ITQB NOVA MostMicro Unit

2013-2015: “Immunogenicity of vaccine candidate antigens from *Staphylococcus pseudintermedius* in *Canis canis*” PTDC/CVT-EPI/4345/2012

2013-2015 “Driving Mitochondrial Effectors of Apoptosis Toward Neural Differentiation” PTDC/BIM-MED/0251/2012

2013-2015 “Understanding echinoderms outstanding nervous system regeneration capabilities using a phosphoproteomics approach” PTDC/MAR-BIO/2174/2012

2012-2014 “Borrow some Boron: New Strategies for Protein Modification!” PTDC/QUI-QUI/118315/2010

2011-2014 “Hepatic toxicity in HIV-infected individuals exposed to nevirapine” PTDC/SAU-TOX/111663/2009

2011-2014 “ER_TRANSROT-Ehrlichia ruminantium proteome analysis: a complementary approach to transcriptomics towards increased knowledge on heartwater pathogenesis and vaccine development” PTDC/CVT/114118/2009

2011-2014 “Deciphering grain filling mechanisms in *Phaseolus vulgaris* L. under water deficit” PTDC/AGR-GPL/110244/2009

2010-2011 CEDOC-FCM-UNL internal project “Biomarkers identification of anti-TNF agents efficacy in Ankylosing Spondylitis patients using a proteomic approach”

2010-2013 “Molecular characterization of organ regeneration in starfish – a proteomic approach toward the discovery of new regeneration factors”, PTDC/MAR/104058/2008

2010-2013 “Plant responses to trace element toxicity: cellular mechanisms for detoxification and tolerance”, PTDC/AGR-AAM/102821/2008

2010-2013 "Integration of transcriptomic, proteomic and metabolomics profiles to understand the role of T6P in the water deficit response and recovery in *Medicago truncatula*", PTDC/AGR-GPL/099866/2008

2010-2013 "Sustainable membrane bioreactors for advanced wastewater treatment: a molecular approach", PTDC/EBB-EBI/098862/2008

2007-2011 "Protein glycation and transthyretin amyloidogenesis in yeast: A model system of neurodegenerative amyloid diseases", PTDC/QUI/70610/2006

2007-2011 "Investigating a Q-cycle mechanism in complexes of respiratory chains – A key process for energy transduction", PTDC/BIA-PRO/66557/2006

2008-2011 "BIOSEAGLUE – Caracterização dos adesivos temporários dos ouriços do mar por espectrometria de massa", supported by Programa Damião de Góis

12. Publications

BIBLIOMETRIC INDICATORS, 1995-2022:

Researcher ID h-index: 35; Publications in international refereed journals: 132 ((97 publications were in journals with high impact (Q1), in 73 (8) which she was responsible for the proteomics (metabolomics) research; 16 of which are devoted to "microbiology/infection disease/bacterial models", which coincide with the area of the submitted project. Several of the PI publications were published within international consortia, showing the extensive recognition of the scientific expertise of the PI.

Total citations: 3767. Average citations per item: 28,5.

PRESENTATIONS AT SCIENTIFIC MEETINGS

Invited Lectures: 18, Conference proceedings: 10, Oral presentations: 36, Poster presentations: 143

Invited Lectures

1."Mass spectrometry-based proteomics and metabolomics profilling of serum samples for discovery and validation of TB diagnostic biomarkers", Tuberculosis World Day Commemoration, National Institute of Health Doutor Ricardo Jorge, Lisbon, Portugal, March 2022

INTERNATIONAL PEER REVIEWED JOURNALS, since 2010:

1. 1-Franco CF, Mellado MCM, Alves PM, **Coelho AV** "Monitoring virus-like particle and viral protein production by intact cell MALDI-TOF mass spectrometry" *Talanta* (2010) 80, 1561–1568
2. 2- Lamy E, da Costa G, Santos R, Capela e Silva F, Potes J, Pereira A, **Coelho AV**, Sales Baptista E, "Sheep and goat saliva proteome analysis: A useful tool for ingestive behavior research?", *Physiology & Behavior* (2009), 98(4):393-401
3. 3- Gomes-Alves P, Neves S, **Coelho AV**, Penque D. "Low temperature restoring effect on F508del-CFTR misprocessing: A proteomic approach" *J Proteomics* (2009), 73(2):218-30

4. 4- Pereira L, **Coelho AV**, Viegas CA, Ganachaud C, Iacazio G, Tron T, Robalo MP, Martins LO “On the Mechanism of Biotransformation of the Anthraquinonic Dye Acid Blue 62 by Laccases” *Adv. Synth. Catal.* (2009), 351, 1857 – 1865
5. 5- A Campos, PK Carvajal-Vallejos, E Villalobos, CF Franco, AM Almeida, **AV Coelho**, JM Torne, M Santos “Characterisation of Zea mays L. plastidial transglutaminase: interactions with thylakoid membrane proteins” *Plant Biology* (2010), 12(5), 708 – 716
6. 6- da Costa G, Gomes R, Correia CF, Freire A, Monteiro E, Martins A, Barroso E, **Coelho AV**, Outeiro TF, Ponces Freire A, Cordeiro C “Identification and quantitative analysis of human transthyretin variants in human serum by Fourier transform ion-cyclotron resonance mass spectrometry.” *Amyloid* (2009);16(4):201-7
7. 7- Almeida AM, Campos A, Francisco R, van Harten S, Cardoso LA, **Coelho AV** “Proteomic investigation of the effects of weight loss in the gastrocnemius muscle of wild and NZW rabbits via 2D-electrophoresis and MALDI-TOF MS.” *Anim Genet.* (2010); 41(3):260-272
8. 8- Perry MJ, Mendes E, Simplicio AL, **Coelho A**, Soares RV, Iley J, Moreira R, Francisco AP “Dopamine- and tyramine-based derivatives of triazenes: Activation by tyrosinase and implications for prodrug design”, *European Journal of Medicinal Chemistry*, (2009), 44(8): 3228-3234
9. 9-Matias A, Serra; Silva; Perdigão; Ferreira; Marcelino I; Silva S; **Coelho A**; Alves P; Duarte C “Portuguese winemaking residues as a potential source of natural anti-adenoviral agents” *International Journal of Food Sciences and Nutrition* (2010), 61(4):357-368
10. 10- P Gomes-Alves; F Couto; C Pesquita; **AV Coelho**; D Penque “Rescue of F508del-CFTR by RXR-motif inactivation triggers proteome modulation associated with the unfolded protein response” *BBA- Proteins and Proteomics* (2010), 1804(4):856-865
11. 11- S Silva, L Gomes, F Leitão, M Bronze, **A V Coelho**, L Vilas Boas “Secoiridoids in olive seed: characterization of nuzhenide and 11-methyl oleosides by liquid chromatography with diode array and mass spectrometry” *Grasas y Aceites*, (2010) 61 (2), 157-164
12. 12- G da Costa, A Guerreiro, C F Correia, R J Gomes, A Freire, E Monteiro, E Barroso, **A V Coelho**, T F Outeiro, A Ponces Freire, C Cordeiro “A non-invasive method based on saliva to characterize TTR in FAP patients using FT-ICR high-resolution mass spectrometry” *Proteomics-Clinical Applications* (2010) 4(6-7):674-678
13. 13- E Lamy, G da Costa, R Santos, F Capela e Silva, J Potes, A Pereira, **A V Coelho**, E Sales Baptista “Effect of condensed tannin ingestion in sheep and goat parotid saliva proteome” *Journal of Animal Physiology and Animal Nutrition* (2011), 95 (3), 304-312
14. 14-A P Batista, C Franco, M Mendes, **A V Coelho**, M M Pereira “Subunit composition of *Rhodothermus marinus* respiratory complex I” *Anal Biochem* (2010) 407, 104-110
15. 15- D Toubarro, M Lucena-Robles, G Nascimento, R Santos, R Montiel, **A V Coelho**, N Simões “A serine protease secreted by the parasitic nematode *Steinernema carpocapsae* is involved in host invasion” *Journal Biological Chemistry*, (2010) 285(40): 30666-30675
16. 16- A M M Antunes, A L A Godinho, I L Martins, M C Oliveira, R A Gomes, **A V Coelho**, F A Beland, M M Marques “Protein adducts as prospective biomarkers of nevirapine toxicity” *Chemical Research in Toxicology*, (2010) 23 (11):1714–1725
17. 17- M Puerto, A M Campos, A Prieto, A Cameán, A Almeida, **A Coelho**, V Vasconcelos “Differential protein expression in two bivalve species, *Mytilus galloprovincialis* and

Corbicula fluminea, exposed to Cylindrospermopsis raciborskii cells" Aquatic Toxicology, (2011) 101(1):109-116

18. 18- E Lamy, G Graça, G da Costa, C Franco, F Capela e Silva, E Sales Baptista, **A V Coelho** "Changes in mice whole saliva soluble proteome induced by tannin-enriched diet" Proteome Science (2010) 8:65
19. 19- E Lamy, ES Baptista, **AV Coelho**, F Capela e Silva Morphological alterations in salivary glands of mice (*Mus musculus*) submitted to tannin enriched diets: comparison with sialotrophic effects of sympathetic agonists stimulation, Arq. Bras. Med. Vet. Zootec (2010) 62 (4), 837-844
20. 20- CF Franco; R Santos; **AV Coelho** Exploring the proteome of an echinoderm nervous system: 2DE of the sea star radial nerve cord and the synaptosomal membranes subproteome, Proteomics (2011) 11(7), 1359-1364 (This paper was highlighted in the cover of the journal and in goProteomics (<http://www.wiley-vch.de/goproteomics/>) "picture of the month".)
21. 21- E Lamy, H Rawel, F J. Schweigert, F Capela e Silva, A Ferreira, A R Costa, C Antunes, A M Almeida, **AV Coelho**, E Sales Baptista The Effect of Tannins in Mediterranean Ruminant Ingestive Behavior: The Role of Oral Cavity, Molecules, (2011), 16: 2766-2784; (Review article to special issue: Tannins)
22. 22- M Mau, A Martinho de Almeida, **AV Coelho**, K-H Sudekum First identification of tannin-binding proteins in saliva of *Papio hamadryas* using MS/MS mass spectrometry American Journal of Primatology (2011) 73(9):896-902
23. 23- AM Almeida, JR Parreira, R Santos, AS Duque, R Francisco, DFA Tomé, CP Ricardo, **AV Coelho**, PS Fevereiro A proteomics study of the induction of somatic embryogenesis in *Medicago truncatula* using 2DE and MALDI-TOF/TOF, Physiologia Plantarum (2012), 146: 236-249
24. 24- CF Franco, R Santos, **AV Coelho** Proteome characterization of sea star coelomocytes – the innate immune effector cells of echinoderms, Proteomics (2011) 11(17):3587-92
25. 25- LMA Oliveira, A Lages, RA Gomes, H Neves, C Familia, **AV Coelho**, A Quintas, Insulin glycation by methylglyoxal results in native-like aggregation and inhibition of fibril formation, Biochemistry (2011)12:41
26. 26- Ribeiro-Silva C, Gilberto S, Gomes RA, Mateus L, Monteiro E, Barroso E, **Coelho AV**, da Costa GA, Freire AP, Cordeiro C The relative amounts of plasma transthyretin forms in familial transthyretin amyloidosis: A quantitative analysis by Fourier transform ion-cyclotron resonance mass spectrometry Amyloid. (2011)18(4):191-9
27. 27- da Costa G, RA, Guerreiro A, Mateus E, Monteiro E, Barroso E, **Coelho AV**, Freire AP, Cordeiro C Beyond Genetic Factors in Familial Amyloidotic Polyneuropathy: Protein Glycation and the Loss of Fibrinogen's Chaperone Activity PLoS One. 2011;6(10):e24850
28. 28- Caldeira AT; Arteiro JMS, **Coelho AV**, Roseiro, JC Combined use of LC-ESI-MS and antifungal tests for rapid identification of bioactive lipopeptides produced by *Bacillus amyloliquefaciens* CCMI 1051, Process Biochemistry (2011) 46, 1738-1746
29. 29- I Marcelino, A Martinho de Almeida, C Brito, DF Meyer, M Barreto, C Sheikboudou, CF Franco, D Martinez, T Lefrançois, N Vachiéry, M JT Carrondo, **AV Coelho**, PM Alves Proteomic analyses of *Ehrlichia ruminantium* highlight differential expression of MAP1-

- family proteins in host endothelial cells, *Veterinary Microbiology*, (2012) 156(3-4), 305-14
30. 30- I Marcelino, AM Almeida, M Ventosa, L Pruneau, DF Meyer, D Martinez, T Lefrançois, N Vachiéry, **AV Coelho** Tick-borne diseases in cattle: applications of Proteomics to develop new generation vaccines, *J Proteomics*, (2012) 75 (14): 4232-50 (Review article to special issue: Farm Animal Proteomics)
 31. 31- R Soares, C Franco, E Pires, M Ventosa, R Palhinhas, K Koci, AM Almeida, **AV Coelho** Mass Spectrometry and Animal Science: Protein identification strategies and particularities of farm animal species, *J Proteomics*, (2012) 75 (14): 4190-4296 (Review article to special issue: Farm Animal Proteomics)
 32. 32- AR Ribeiro, A Barbaglio, MJ Oliveira, R Santos, **AV Coelho**, CC Ribeiro, IC Wilkie, MD Candia Carnevali, MA Barbosa Correlations between the biochemistry and the mechanical states of the sea-urchin ligament: a mutable collagenous tissue. *Biointerphases*, (2012) 7, 38
 33. 33- Cal P; Vicente J; Pires E; **Coelho A**; Veiros L; Cordeiro C; Gois P Iminoboronates: A New Strategy for Reversible Protein Modification. *Journal American Chemical Society* (2012) 134 (24):10299-10305
 34. 34- A F Silva, G Carvalho, R Soares, **A V Coelho**, M T Barreto Crespo Step-by-step strategy for protein enrichment and proteome characterisation of extracellular polymeric substances in wastewater treatment systems *Appl Microbiol Biotechnol* (2012) 95:767–776
 35. 35- A Guerreiro, G da Costa, R A Gomes, C Ribeiro-Silva, S Gilberto, E Mateus, E Monteiro, E Barroso, **A V Coelho**, A Ponces Freire, C Cordeiro α -Synuclein aggregation in the saliva of familial transthyretin amyloidosis: a potential biomarker *Amyloid*, (2012) 19, (2), 74-80
 36. 36- T Rosado, P Bernardo, K Koci, **AV Coelho**, MP Robalo, LO Martins Methyl syringate: An efficient phenolic mediator for bacterial and fungal laccases *Bioresource Technology* 124 (2012) 371–378
 37. 37- CF Franco, R Soares, E Pires, R Santos, **AV Coelho** "Radial nerve cord protein phosphorylation dynamics during starfish arm tip wound healing events" *Electrophoresis*, 2012, 33, 3764–3778
 38. 38- R Santos, A Barreto, C Franco, **AV Coelho** "Mapping sea urchins tube feet proteome - A unique hydraulic mechano-sensory adhesive organ" *J Proteomics*, 2013, 79: 100-113
 39. 39- RA Gomes, C Franco, G Da Costa, S Planchon, J Renaut, RM Ribeiro, F Pinto, MS Silva, **AV Coelho**, AP Freire, C Cordeiro "The proteome response to amyloid protein expression in vivo" *PLoS One*, 2012, 7(11):e50123. doi: 10.1371/journal.pone.0050123
 40. 40- A Campos, M Puerto, A Prieto, A Cameán, AM Almeida, **AV Coelho**, V Vasconcelos "Protein extraction and two-dimensional gel electrophoresis of proteins in the marine mussel *Mytilus galloprovincialis*: an important tool for protein expression studies, food quality and safety assessment" *J Sci Food Agric.* 2013, 93(7):1779-87
 41. 41- LM Oliveira, RA Gomes, D Yang, SR Dennison, C Família, A Lages, **AV Coelho**, RM Murphy, DA Phoenix, A Quintas "Insights into the molecular mechanism of protein native-like aggregation upon glycation" *Biochim Biophys Acta*, 2013, 1834(6):1010-22

42. 42- C Franco, R Soares, E Pires, K Koci, A Almeida, R Santos, **AV Coelho** "Understanding Regeneration Through Proteomics" *Proteomics*, 2013, 13(3-4), 686-709 (Review article)
43. 43- N Rainha, K Koci, **A V Coelho**, E Lima, J Baptista, M Fernandes-Ferreira "HPLC-UV-ESI-MS analysis of phenolic compounds and antioxidant properties of Hypericum undulatum Schousb. ex. Willd in vitro shoot cultures" *Phytochemistry*, 2013, 86:83-91
44. 44- M Sebastiana, A Figueiredo, F Monteiro, J Martins, C Franco, **A V Coelho**, F Vaz, T Simões, D Penque, M Pais; S Ferreira "A possible approach for gel-based proteomic studies in recalcitrant woody plants", *SpringerPlus* 2013, 2(1):210
45. 45- Mendes M, Pérez-Hernandez D, Vázquez J, **Coelho AV**, Cunha C Proteomic changes in HEK-293 cells induced by hepatitis delta virus replication *J Proteomics*. 2013, 89:24-38
46. 46- Cole C, **Coelho AV**, James RH, Connelly D, Sheehan D. "Proteomic responses to metal-induced oxidative stress in hydrothermal vent-living mussels, *Bathymodiolus* sp., on the Southwest Indian Ridge." *Mar Environ Res.* 2014, 96:29-37
47. 47- Coelho DS, Cairrão F, Zeng X, Pires E, **Coelho AV**, Ron D, Ryoo HD, Domingos PM "Xbp1-Independent Ire1 Signaling Is Required for Photoreceptor Differentiation and Rhabdomere Morphogenesis in *Drosophila*." *Cell Rep.* 2013, 5(3):791-801
48. 48- Franco CF, Santos R, **Coelho AV** Proteolytic events are relevant cellular responses during nervous system regeneration of the starfish *Marthasterias glacialis*. *J Proteomics*. 2014 , 99: 1-25
49. 49- Sellami B, Louati H, Dellali M, Aissa P, Mahmoudi E, **Coelho AV**, Sheehan D "Effects of permethrin exposure on antioxidant enzymes and protein status in Mediterranean clams *Ruditapes decussatus*." *Environ Sci Pollut Res Int.* 2014, 21(6):4461-72.
50. 50- Cruz DE Carvalho R, DA Silva AB, Soares R, Almeida A, **Coelho AV**, Marques DA Silva J, Branquinho C "Differential proteomics of dehydration and rehydration in bryophytes: evidence towards a common desiccation tolerance mechanism." *Plant Cell Environ.* 2014, 37(7):1499-515.
51. 51- L-C Rainville, D Carolan, **AV Coelho**, H Doyle, D Sheehan "Proteomic evaluation of citrate-coated silver nanoparticles toxicity in *Daphnia magna*" *Analyst*, 2014, 139:1678-1686
52. 52- LE Hernández-Castellano, AM Almeida, M Ventosa, **AV Coelho**, N Castro, A Argüello "The effect of colostrum intake on blood plasma proteome profile in newborn lambs: low abundance proteins" *BMC Vet Res*, 2014; 10(1):85.
53. 53- AR Batista, D Gianni, M Ventosa, **AV Coelho**, MR Almeida, M Sena-Esteves, MJ Saraiva "Gene therapy approach to FAP: in vivo influence of T119M in TTR deposition in a transgenic V30M mouse model" *Gene Ther*, 2014; 21(12):1041.
54. 54- JL Jonker, F Abram, E Pires, **AV Coelho**, I Grunwald, AM Power "Adhesive Proteins of Stalked and Acorn Barnacles Display Homology with Low Sequence Similarities" *Plos One*, 2014; 9(10), 13
55. 55- N Sanchez de Groot, RA Gomes, A Villar-Pique, M Madan Babu, **AV Coelho**, S Ventura "Proteome response at the edge of protein aggregation" *Open Biol.* 2015; 5(2):140221. doi: 10.1098/rsob.140221
56. 56- A Moumène, I Marcelino, M Ventosa, O Gros, T Lefrançois, N Vachiéry, DF Meyer, **AV Coelho** "Proteomic Profiling of the Outer Membrane Fraction of the Obligate

- Intracellular Bacterial Pathogen *Ehrlichia ruminantium*" PLoS One, 2015 ; 10(2):e0116758. doi: 10.1371/journal.pone.0116758
57. Lewis P, Sheehan D, Soares R, **Coelho AV**, O'Halloran KD (2015) Chronic sustained hypoxia-induced redox remodeling causes contractile dysfunction in mouse sternohyoid muscle. *Front. Physiol.* 2015; 6:122.
 58. L-C Rainville, **AV Coelho**, D Sheehan "Application of a redox-proteomics toolbox to *Daphnia magna* challenged with model pro-oxidants copper and paraquat" *Environ Toxicol Chem*, 2015; 34 (1): 84-91
 59. Jaafar SN, **Coelho AV**, Sheehan D "Redox proteomic analysis of *mytilus edulis* gills: effects of the pharmaceutical diclofenac on a non-target organism" *Drug Test Anal*, 2015, 7(10):957-66
 60. Madar M, Bencurova E, Mlynarcik P, Almeida AM, Soares R, Bhide K, Pulzova L, Kovac A, **Coelho AV**, Bhide M "Exploitation of complement regulatory proteins by *Borrelia* and *Francisella*" *Mol Biosyst*. 2015, 11(6):1684-95
 61. Sellami B, Khazri A, Louati H, Dellali M, Driss MR, Aïssa P, Mahmoudi E, Hamouda B, **Coelho AV**, Sheehan D "Effects of anthracene on filtration rates, antioxidant defense system, and redox proteomics in the Mediterranean clam *Ruditapes decussatus* (Mollusca: Bivalvia)" *Environ Sci Pollut Res Int*. 2015, 22(14):10956-68
 62. da Costa G, Ribeiro-Silva C, Ribeiro R, Gilberto S, Gomes RA, Ferreira A, Mateus É, Barroso E, **Coelho AV**, Freire AP, Cordeiro C. "Transthyretin Amyloidosis: Chaperone Concentration Changes and Increased Proteolysis in the Pathway to Disease." *PLoS One*. 2015, 10(7):e0125392. doi: 10.1371/journal.pone.0125392.
 63. Lewis D, Sheehan R, Soares, **AV Coelho**, KD O'Halloran "Redox Remodelling is Pivotal in Murine Diaphragm Muscle Adaptation to Chronic Sustained Hypoxia" *Am J Respir Cell Mol Biol*. 2016, 55(1):12-23
 64. Almeida AM, Palhinhas RG, Kilminster T, Scanlon T, van Harten S, Milton J, Blache D, Greeff J, Oldham C, **Coelho AV**, Cardoso LA "The Effect of Weight Loss on the Muscle Proteome in the Damara, Dorper and Australian Merino Ovine Breeds." *PLoS One*. 2016, 11(2):e0146367. doi: 10.1371/journal.pone.0146367
 65. Marcelino I, Ventosa M, Pires E, Müller M, Lisacek F, Lefrançois T, Vachiery N, **Coelho AV** "Comparative Proteomic Profiling of *Ehrlichia ruminantium* Pathogenic Strain and Its High-Passaged Attenuated Strain Reveals Virulence and Attenuation-Associated Proteins." *PLoS One*. 2015, 10(12):e0145328. doi:10.1371/journal.pone.0145328 IF= 2.776
 66. Couto N, Martins J, Lourenço AM, Pomba C, **Coelho AV** "Identification of vaccine candidate antigens of *Staphylococcus pseudintermedius* by whole proteome characterization and serological proteomic analyses" *Journal of Proteomics*. 2016, 133:113-124, doi: 10.1016/j.jprot.2015.12.017
 67. Ilyas S, Rehman A, **Coelho AV**, Sheehan D "Proteomic analysis of an environmental isolate of *Rhodotorula mucilaginosa* after arsenic and cadmium challenge: Identification of a protein expression signature for heavy metal exposure" *Journal of Proteomics*. 2016, 141:47-56
 68. Gonçalves NP, Gonçalves P, Magalhães J, Ventosa M, **Coelho AV**, Saraiva MJ "Tissue remodeling after interference RNA mediated knockdown of transthyretin in

- a familial amyloidotic polyneuropathy mouse model” *Neurobiol Aging*. 2016, 47:91-101
69. 69- Sebastiana M, Martins J, Figueiredo A, Monteiro F, Sardans J, Peñuelas J, Silva A, Roepstorff P, Pais MS, **Coelho AV** “Oak protein profile alterations upon root colonization by an ectomycorrhizal fungus.” *Mycorrhiza*. 2017, 27(2):109-128 **IF=2.40**
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74. 74- Gomes L, Anjo S, Manadas B, **Coelho AV**, Paschoalin V “Proteomic analysis reveals new insights on the antimicrobial mechanisms of chitosan biopolymers or their nanosized particles against *Escherichia coli*”, *Int. J. Molecular Sciences*, 2019, 21(1):225. doi: 10.3390/ijms21010225 **IF=4,183, NC=2**
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76. 76- Lucena S, **Coelho AV**, Muñoz-Prieto A, Anjo SI, Manadas B, Capela e Silva F, Lamy E, Tvarijonaviciute A “Changes in the salivary proteome of Beagle dogs after weight loss” *Domestic Animal Endocrinology*, doi:10.1016/j.domeind.2020.106474 **IF=2,302, NC=0**.
77. 77-Fernandes MB, Costa M, Ribeiro MF, Martins J, **Coelho AV**, Silva MFB, Rodrigues CMP, Solá S “Metabolic repression of a long-chain fatty acid oxidation-associated enzyme supports nuclear histone acetylation in proliferating neural stem cells”, *Front. Cell Development Biology*, 2020, 8:335 doi: 10.3389/fcell.2020.00335
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79. 79-Rosner A, Armengaud J, Ballarin L, Barnay-Verdier S, Cima F, **Coelho AV**, Domart-Coulon I, Drobne D, Genevière A-M, Kokalj AJ, Kotlarska E, Lyons DM, Mass T, Paz G,

- Pazdro K, Perić L, Ramšak A, Rakers S, Rinkevich B, Spagnuolo A, Sugni M, Cambier S "Stem cells of aquatic invertebrates as an advanced tool for assessing ecotoxicological impacts" *Science of The Total Environment*, 2021, 771, 144565, doi.org/10.1016/j.scitotenv.2020.144565.
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 83. 83- P. Martinez, L. Ballarin, A. V. Ereskovsky, E. Gazave, B. Hobmayer, L. Manni, E. Rottinger, S. G. Sprecher, S. Tiozzo, **A. Varela-Coelho** and B. Rinkevich "Articulating the "stem cell niche" paradigm through the lens of non-model aquatic invertebrates" *BMC Biology*, 2022, 20, 23 <https://doi.org/10.1186/s12915-022-01230-5>
 84. 84- G Romano, M Almeida, A V Coelho, A Cutignano, L G Gonçalves, E Hansen, D Khnykin, T Mass, A Ramšak, M Rocha, T Henriques da Silva, M Sugni, L Ballarin, A-M Geneviere "Biomaterials and Bioactive Natural Products from Marine Invertebrates: From Basic Research to Innovative Applications" *Marine drugs*, 2022, 20(4):219 <https://doi.org/10.3390/md20040219>
 85. 85- A F Fernandes, L G Gonçalves, M Bento, S I Anjo, B Manadas, C Barroso, M Villar, R Macedo, M J Simões, A V Coelho "Mass Spectrometry-Based Proteomic and Metabolomic Profiling of Serum Samples for Discovery and Validation of Tuberculosis Diagnostic Biomarker Signature." *Int. J. Mol. Sci.*, 2022, 23, 13733. <https://doi.org/10.3390/ijms232213733>
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 87. 87- L G Gonçalves, S Santos, L P Gomes, J Armengaud, M Miragaia, A V Coelho "Skin-to-blood pH shift triggers metabolome and proteome global remodelling in *Staphylococcus epidermidis*" *Front Microbiol.*, 2022, 13:1000737. doi: 10.3389/fmicb.2022.1000737
 88. 88- F Magalhães, C Andrade, B Simões, F Brigham, R Valente, P Martinez, J Rino, M Sugni, A V Coelho "Regeneration of Starfish Radial Nerve Cord restores animal mobility and unveils a new coelomocyte population", submitted to *Cell Tissue Res*

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92. BOOK CHAPTERS:

- 1- R Santos, E Hennebert, **AV Coelho**, P Flammang Functional Surfaces in Biology-Cap “The echinoderm tube foot and its involvement in temporary underwater adhesion”, Editor S Gorb, Springer, 2009, pp.9-41
93. 2-Sales Baptista E, Lamy E, Mau M, Capela e Silva F, **Coelho AV**, Behavioral and Chemical Ecology – Cap “Variation in salivary protein composition related to feeding behavior and its ecological implications” NOVA Publishers, 2009, pp 115-136
94. 3-A Campos, AM Almeida, **AV Coelho**. Mitochondria: Structure, Functions and Dysfunctions – Cap “Blue Native PAGE, basis of the technique and its use in organelle study: the mitochondrial complexome. Mitochondria: Structure, Functions and Dysfunctions”. Edited by O.L. Svensson, Nova Science, Hauppauge, NY, USA (2011) pp.975-982. ISBN:978-1-61668-346-7
95. 4-Soares R, Pires E, Almeida AM, Santos R, Gomes R, Koči K, Franco CF, **Coelho AV**. Tandem Mass Spectrometry of peptides. In: Applications of Tandem Mass Spectrometry- its Principles and Applications, 2012 Jeevan K. Prasain (Ed.), ISBN: 978-953-51-0141-3, InTech. Available from: <http://www.intechopen.com/articles/show/title/tandem-mass-spectrometry-of-peptides>
96. 5- Cunha C, **Coelho AV** (2012). Comparative proteome analysis of a human liver cell line stably transfected with Hepatitis D virus full-length cDNA. In Liver Proteomics: Methods in Molecular Biology; Djuro Josic and Douglas C. Hixson Eds. Humana Press, Volume 909, 205-225, DOI: 10.1007/978-1-61779-959-4_14.
97. 6- R Laires, K Koci, E Pires, C Franco, P Lamosa, **AV Coelho** (2013). Tandem MS and NMR: An Efficient Couple for the Characterization of Saponins. In: Applications of Tandem Mass Spectrometry- its Principles and Applications, AV Coelho and C Franco (Ed.), ISBN: 978-953-51-0141-3, InTech. Available from: <http://www.intechopen.com/books/tandem-mass-spectrometry-molecular-characterization/>
98. 7- Gomes LP, Silva CG, Gaillard JG, Armengaud J, **Coelho AV** (2021). Characterization of soluble cell-free coelomic fluid proteome from the starfish *Marthasterias glacialis*. In Whole Body Regeneration: Methods in Molecular Biology; Blanchoud S, Galliot B (Ed.), DOI:10.1007/978-1-0176-2171-4_31, In Springer.

13.Experience of Supervision:

Supervised 3 Researcher Assistants, 9 Post-doc, 9 PhD thesis, 15 Master thesis, 12 Research Students, 7 Under-graduated Students and 17 Visiting Students/Researchers

14. Participation in juries

Master thesis: 14; PhD Thesis: 21

15. Organization of Courses and Scientific Meetings

2nd Annual Meeting of Portuguese Proteomic Network-Procura, Lisbon, 2004

"Identification of proteins using mass spectrometry data – practical course" in collaboration with Thermo Finnigan, Oeiras, 2005

"Workshop on behalf of the National Network for Mass Spectrometry" in collaboration with Faculty of Sciences University of Lisbon and University of Aveiro, Oeiras, 2005

3rd Annual Meeting of Portuguese Proteomic Network-Procura, Lisbon, 2005

First and Second RNEM Course on Protein Identification by Mass Spectrometry, ITQB – New University of Lisbon, Oeiras, 2010 and 2011

DIGE Workshop (sponsored by GE Healthcare), ITQB – New University of Lisbon, Oeiras, 2011

4th European Association for Proteomics Meeting "2010 Proteomics Odyssey toward next decades", Estoril, 2010

"Metabolomic and molecular interactions for biology and health - A rupture technology Workshop", on behalf of Transbio SUDOE project, ITQB - New University of Lisbon, 2013

Hands-on Course – Combining Proteomics and Genomics towards the Proteogenomics concept. 26-29 September 2017, ICAAM, Évora

2nd workshop of the COST Action 16203 MARISTEM: Omic Approaches To Identify And Characterize Marine/Aquatic Invertebrate Stem Cells 8-10 April, 2019, Peniche, Portugal

Practical workshop "Proteogenomics based annotation of bacterial and protozoan genomes" 26 November 2019, by Jean Armengaud

Lecture "Proteogenomics and metaproteomics, new horizons in proteomics", 26 November 2019 by Jean Armengaud

ProteOviedo 2020 – Joint SeProt/Procura/Sfeap Meeting, May 2020, Oviedo, Spain. Member of the Scientific Committee

Training School of the COST Action MARISTEM: Omics for studying stem cells in model and non-model aquatic invertebrate systems - Organization of the proteomic and metabolomic modules, 6 September - 8 October 2021, on line event

ProteoVilamoura 2022 – Joint SeProt/Procura/Sfeap Meeting, May 2022, Vilamoura, Portugal. AVC member of Organizing and Scientific Committees (expected 200 participants)

ProteoAix 2023 – Joint SeProt/Procura/Sfeap Meeting, June 2023, Aix-en-Provence, France. AVC member of Scientific Committees

16. Teaching activities

WORKSHOPS:

"MS applications/Protein identification", Proteomic Workshop, Algarve University, 2011

- 2015

“De novo sequencing”, Proteomic Workshop, Aveiro University, 2010 and 2012

“De novo sequencing”, Proteomic Course, CIIMAR, Oporto University, 2011

“Characterization of peptides by mass spectrometry”, COST Training School: Peptides for Targeted Drug Delivery - Hands-on, COST Action CM 1105: Functional metal complexes that bind to biomolecules, Centro de Ciências e Tecnologias Nucleares, Lisbon, 2014

PhD PROGRAMS:

Leslie Avendaño Montoya, Lab rotation title: “Metabolomic analysis of *E. coli* grown in chitosan nanoparticles”. MolBioS PhD program: January 2020. Supervisor(s): Luís G Gonçalves and Ana V Coelho, ITQB NOVA.

Lecture on “Mass Spectrometry Techniques”, curricular unit Methods in Biosciences I, PhD program MolBios, ITQB-UNL, Oeiras, 2015-

Module on “Introduction to MS” and “MS applications - identification of proteins”, PhD Annual Program in Chemistry, Biochemistry, Biology, Engineering Sciences, ITQB-UNL, Oeiras, 2003–2013

Module on Protein identification by Mass Spectrometry included in the Annual PhD Program on Computational Biology, Gulbenkian Institute of Sciences, 2008-2011

POST-GRADUATION and MASTER COURSES:

Coordination of the Postgraduate Program on Research Practice, ITQB NOVA, 2020-

Coordination of the curricular unit Bioanalytical Procedures included in the Master on Biochemistry for Health, ITQB/FCT/FCM, 2013-

2003-2016: Modules on Protein Identification and Mass Spectrometry in 11 National Universities and Research Institutions

17. Other activities

2012-2019: Treasurer of the Portuguese Proteomics Association - Rede ProCura

Since 2019: Vice-president of the Portuguese Proteomics Association - Rede ProCura

2011-2015: Member of the Management Committee of “Mass Spectrometry Imaging: New Tools for Healthcare Research”, Cost Action BM1104

2007-2013: Coordinator of the Working Group “Know-how Exchange” from the National Network for Mass Spectrometry, ITQB-UNL, Lisbon

2005-2013: Representative in the National Network for Mass Spectrometry, ITQB-UNL, Lisbon

2003-2005: Analytical Services Committee Member, ITQB-UNL, Lisbon

2002-2006: Infra-Structure Support Committee Member, ITQB-UNL, Lisbon

2019-2021: HUPO councilor in representation of European Proteomic Association (EUPA)
Appointed as diversity representative ratified by Electorate.

18. Member of the Scientific Evaluation Panel for the following Agencies:

Agencia Nacional de Investigación e Innovación de Uruguay, 2012

National Science Centre of Poland, 2013

Fundaçao para a Ciênci a e a Tecnologia, Ministério da Ciênci a, Tecnologia e Ensino Superior,
Member of the Evaluation Panel on Experimental Biology and Biochemistry – PhD fellowships,
2015

Marsden Fund Council (New Zealand), Research Proposal Call. 2017

BBSRC (United Kingdom), Call for Research Proposals. 2018

COST Action (European Commission), Call for Research Proposals. 2018. External expert and rapporteur

COST Action (European Commission), Call for Research Proposals. 2019 & 2020. External expert

FETOPEN Program ((European Commission), Monitoring of Research Project. 2019 & 2021 &2022. Member of Pool of Monitors and rapporteur

HORIZON-EIC-2022-PATHFINDEROPEN-01 (EISMEA, European Commission), Call for Research Proposals. 2022. External Expert

Secretaria Regional do Mar, Ciênci a e Tecnologia, Região Autónoma Açores (Portugal), PhD fellowships, 2021 & 2022.

19. Reviewer for the following journals:

Acta Tropica (Elsevier); Journal of Animal Physiology and Animal Nutrition (Wiley); Journal of Chromatography (Elsevier); Journal of Proteome Research (ACS Publications); Journal of Proteomics (Elsevier); Rapid Communications in Mass Spectrometry (Wiley); Analytica Chimica Acta (Elsevier); Proteome Science (Open Access journal); International Journal of Primatology (Springer); Journal of Agricultural and Food Chemistry (ACS Publications); Journal of Food Science (IFT); Expert Reviews of Proteomics (Expert Reviews); Biochimica et Biophysica Acta – Proteins and Proteomics (Elsevier); Comparative Biochemistry and Physiology (Elsevier); Annual Review & Research in Biology (Science Domain); Molecular Genetics and Metabolism Reports (Elsevier); PLOS ONE (PLOS); Cell & Developmental Biology (OMICS Publishing Group); International Journal of Proteomics (Hindawi); Combinatorial chemistry & high throughput screening (Bentham Science); Research in Veterinary Science (Elsevier); BMC Veterinary Research (BMC Journal); EuPA Open Proteomics (Elsevier); Frontiers in Microbiology (Frontiers); Proteomics (Wiley); Journal of Mass Spectrometry (Wiley); Oncotarget (Impact Journals).

March 2022

Ana Maria Vazela Wille