

## **CURRICULUM VITAE**

**Ana Maria de Jesus Bispo Varela Coelho**

### **Professional Address:**

Instituto de Tecnologia Química e Biológica – Universidade Nova de Lisboa

Mass Spectrometry Laboratory

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**Date and place of birth:** 2nd May 1964, Lisbon, Portugal

**Nationality:** Portuguese

### **Education (degrees, dates, universities):**

- Dipl. on Biochemistry, 1987, FCUL- University of Lisbon, Portugal
- Ph. D. on Chemistry-Biochemistry, “Determination and analysis of the tridimensional structure of desulfoferrodoxin isolated from *Desulfovibrio desulfuricans* ATCC27774”, 1998, University of Évora, Portugal

### **Employment Career:**

- Professor Assistant, University of Évora, from 1990 to 1998
- Assistant Professor, University of Évora, 1998-2010
- Invited Assistant Professor, ITQB-UNL, 2002-2010
- Assistant Researcher, ITQB-UNL, since 2010

### **Management Responsibilities (since 2002):**

- ITQB/UNL Analytical Services Committee Member (2003-2005)
- ITQB/UNL Infra-Structure Support Committee Member (2002-2006)
- Technical responsible of Mass Spectrometry Laboratory– Analytical Services Unit certified in Good Laboratory Practices according with OCDE principles (2006-2012)
- ITQB representative in the National Network for Mass Spectrometry (2005-2013) and coordinator of the Working Group “Know-how Exchange” (2007-2013)
- Co-founder of the Portuguese Proteomics Association - Rede ProCura, (2009), the official representative member of Portugal in the European Proteomics Association (EuPA)

- ITQB-UNL Mass Spectrometry Laboratory Coordinator, including the Mass Spectrometry Scientific Services for External Academic Institutions (since 2002)
- Treasurer of the Portuguese Proteomics Association - Rede ProCura (since 2012)
- Member of the Management Committée of “Mass Spectrometry Imaging: New Tools for Healthcare Research”, Cost Action BM1104 (since 2011)

### Specialization:

Main field: proteomics, metabolomics, mass spectrometry, tissue regeneration, marine organisms, host-pathogen interactions

Current research interests: Application and development of mass spectrometry-based omics approaches to the study of biodiversity at the cellular and molecular levels envisaging biomimetics applied to the biomedical and veterinary sciences. In particular, on the identification and characterization of biomolecules and biochemical processes involved in tissue and organ regeneration of marine organisms. Echinoderms, as invertebrate deuterostomes, have amazing intrinsic growth aptitude triggered at any time point during lifespan leading to successful functional tissue regrowth. This trait is known to be in opposition to their mammal close phylogenic relatives that have lost the ability to regenerate, namely the central nervous system. Additionally, the development of protein characterization methods, in what concerns PTMs and de novo sequencing, is also considered, since it is a relevant aspect for the proteome characterization of non-model species. A strong involvement has also been put on the characterization of host-pathogen interaction molecular mechanisms toward innovative therapeutic and diagnostic strategies in tick born diseases (cowdriosis), multidrug-resistant species relevant in veterinary medicine (*Staphylococcus pseudointermedius*), and in human infectious diseases, like tuberculosis.

### Supervision of Students and Researchers (since 2002):

#### Research assistant

- R. Soares, Program “Ciência 2008”, 2009-2013
- P. Boross, Program “Ciência 2008”, 2009-2010

#### Post-doc Projects:

- A. Campos “Proteomic analysis of chloroplast differentiation in *Z. mays* L.”, 2005-2008

- R Santos “Characterization of sea urchins temporary adhesives by mass-spectrometry-based proteomics”, 2006-2009
- R Gomes “Transthyretin Misfolding and Aggregation in vivo: Molecular and Cellular Clues for Amyloidogenesis”, 2008-2011
- R Soares “Development and validation of methods for the characterization and quantification of biopharmaceuticals by soft ionization mass spectrometry”, 2008-2009
- K Koci “Development and validation of methods for the characterization and quantification of peptides”, 2009-2011 and “Identification and characterization of bioactive peptides from starfish cell free coelomic fluid”, 2012
- I Marcelino “Identification of vaccine candidates against Ehrlichia ruminantium using high-throughput proteomic analysis: a complementary approach to genome-based strategies for an improved Heartwater vaccine development”, since 2010
- C Franco “ProteOMICS functional annotation of sea star tissues proteins during arm re-growth – Protein post-translational modifications (PTMs) dynamics in the regeneration events of echinoderms”, since 2012

#### PhD Thesis:

- G da Costa “Structural and functional characterization of Drosophila melanogaster kinetocore”, ITQB-UNL, 2003-2008
- E Lamy “Saliva role on the taste of phenolic compounds”, Évora University, 2004-2009
- P Alves “Cystic Fibrosis by Proteomics: identification of molecular targets for therapeutic intervention”, ITQB-UNL, 2004-2009
- S Mota “Study of the influence that the siRNAs have in the replication of the hepatitis delta virus and analysis of the genetic expression of infected cells”, IHMT-UNL, 2004-2009
- D Toubarro “ Study of a nematode infection process using proteomic and genomic approaches”, Azores University, 2006-2010
- C Franco “Proteomics based approach to understand tissue regeneration – sea star as a model organism”, ITQB-UNL, 2007-2011
- M Mendes “Analysis of changes in the host cell proteome during hepatitis D virus infection”, IHMT-UNL, 2008-2011
- N Couto “Study of the interaction between the multiresistent bacteria Staphylococcus pseudintermedius and its canine host in an ex-vivo cutaneous model”, Faculty of Veterinary Medicine, Technical University of Lisbon, since January 2011

### Master Thesis:

- M Mendes “Influence of the expression of genomic and antigenomic RNAs of HDV on the proteome of human liver cells”, Master on Biotechnology (Biochemical Engineering) IST, Technical University of Lisbon, 2004 - 2005
- M Carvalho “Protein expression in the hepatic tissue of three domestic sheep breeds influenced by weight loss – a study using 2DE and MALDI-TOF/TOF”, Master on Animal Production Engineering, ISA/FMV, Technical University of Lisbon, 2008-2009
- M Ventosa “Differential Proteomics: A study in *Medicago truncatula* somatic embryogenesis”, Master on Cellular Biology and Biotechnology, Faculty of Science, University of Lisbon, 2009-2010
- R Palhinhas “Investigation of the effects of weight loss on *Ovis aries* muscle – A proteomic study on three breeds with different levels of adaptation to nutritional stress”, Master on Cellular Biology and Biotechnology, Faculty of Science, University of Lisbon, 2010-2011
- J Martins “Identification of coelomocytes differentially expressed proteins during the regeneration of sea-star *Marthasterias glacialis*”, Master on Biochemistry, Faculty of Sciences, University of Lisbon, 2011-2012
- R Laires “Characterization of coelomic fluid composition during the regeneration of sea-star *Marthasterias glacialis*”, Master on Biological Engineering, IST, Technical University of Lisbon, 2012
- L Domingues “The effects of cadmium induced stress on protein expression profiles of *Nicotiana tabacum*” Master on Cellular Biology and Biotechnology, Faculty of Science, University of Lisbon, 2011-2012
- I Magalhães “Comparative proteome of biofilm matrices produced by several methicillin-susceptible and methicillin-resistant *S. pseudintermedius* strains”, University of Aveiro, since 2013

### Research students

- G da Costa, BIC grant on behalf of Project “Effect of phenolic compounds on the gustative sensitivity: studies of cellular kinetics, chemical and morfological adaptations of the buccal cavity” (Ref: CVT/33039/99-00), supported by SAPIENS99-00, 2002-2003
- C Franco, research grant on behalf of Project “Study of lipo-chitin oligosaccharides nodulation factors produced by several *Rhizobium* species using mass spectrometry methodologies”, 2004-2005
- C Franco, BI grant on behalf of Project “Genetic, stoichiometric and kinetic of the packing of multiple proteins on a rotavirus like-particle” (FCT/POCTI/BIO/55975/2004), 2005–2006

- S Rodrigues, BI grant on behalf of Project of the National Network for Mass Spectrometry (FCT ref: Rede/1504/REM/2005), 2009-2011
- R Palhinhas, BI grant on behalf of Project of the National Network for Mass Spectrometry (FCT ref: Rede/1504/REM/2005), 2011
- Miguel Ventosa, BI grant on behalf of Project “Development of therapies for amyloid neuropathies”, in collaboration with IBMC, Oporto University, Portugal, 2010-2011
- Miguel Ventosa, BI grant on behalf of Project “ER\_TRANSPROT-Ehrlichia ruminantium proteome analysis: a complementary approach to transcriptomics towards increased knowledge on heartwater pathogenesis and vaccine development” PTDC/CVT/114118/2009, since 2011
- Filipa Lopes, on behalf of Project “Plant responses to trace element toxicity: cellular mechanisms for detoxification and tolerance”, PTDC/AGR-AAM/102821/2008, 2013
- Pedro Alves, BI grant on behalf of Project of the National Network for Mass Spectrometry” (FCT ref: Rede/1504/REM/2005), 2013
- Joana Martins, BI grant on behalf of Project “Proteomic approaches toward the understanding of biotic stresses in plant species with agricultural interest”, ICL 441, Laboratório Associado - Instituto de Tecnologia Química e Biológica – LA PEst-OE/eqb/LA0004/2011, 2013
- Joana Martins, BI grant on behalf of Project “Immunogenicity of vaccine candidate antigens from Staphylococcus pseudintermedius in Canis canis” PTDC/CVT-EPI/4345/2012, since 2013
- Rita Laires, BI grant on behalf of Project “Plant responses to trace element toxicity: cellular mechanisms for detoxification and tolerance”, PTDC/AGR-AAM/102821/2008, 2013
- Rita Laires, BI grant on behalf of Project “TBomics - an OMICS approach for diagnosing tuberculosis”, New INDIGO Partnership Programme on Biotechnology applied to Human Health (INDIGO-DBT2-062), ERA-NET Project, 2013-2015

#### Undergraduate students

- G Graça “Comparative study of mice saliva proteome under the effect of polyphenols enriched diets”, Biochemistry, Faculty of Sciences, University of Lisbon, 2004 -2005
- A Lopes “Optimization of MALDI-TOF conditions for the study of metaloproteins”, Technological Chemistry, Faculty of Sciences, University of Lisbon, 2005 – 2006
- F Lopes “The effects of copper induced stress on protein expression profiles of Nicotiana tabacum”, Biochemistry, Faculty of Science and Technology, New University of Lisbon, 2012

● B Pedras “Optimization of 2D-electrophoresis conditions for the characterization of the coelomic epithelium proteome of *Asterias Rubens*”, Biochemistry, Faculty of Science and Technology, New University of Lisbon, 2013

● A Oliveira “Validation of protein quantification Direct Detect method for protein extracts to be used for 2DE”, Professional Course on Chemical Analysis, Secondary School of Algueirão-Mem Martins, 2013

#### Scientific Research Training

● A Guerra “Characterization of the coelomic epithelium proteome of *Asterias Rubens*”, 2012-2013

#### Visiting Students/Researchers

● N Candeias “Study of porphyrin derivatives using MALDI ionization”, curricular unit “Advanced experimental techniques” from the PhD Program of IST, April 2005

● L Arike “Evaluation of protein microwave digestion methods”, PhD training on behalf of Erasmus Program, University of Tallin, Estonia, 2007- 2008

● P Carvajal “Characterization of the proteome of transgenic tobacco plants”, PhD student of the Molecular Genetics Department, Molecular Biology Institute of Barcelona, Centre for Research in Agricultural Genomics, CSIC- UAB- IRTA, Spain (Bilateral collaboration bilateral on behalf of GRICES), 2009

● N de Groot “Proteomic study of yeast response against protein aggregation” Post-Doc at the Department of Biochemistry and Molecular Biology, Institute of Biotechnology and Biomedicine, University Autónoma of Barcelona, Spain (on behalf of Interbio-SUDOE project), 2010

● A Binetti, “Insights in the Peptidomics of a Functional Food Prototype – The Buttermilk Fermentation Product by *Lactobacillus delbrueckii* subsp. *lactis*” Researcher of the Institute of Industrial Lactology (INLAIN, UNL-CONICET) Faculty of Chemical Engineering – UNL, Santa Fé, Argentina (on behalf of CYTED network), 2010

● A Pique “Study of the cellular mechanisms involved in yeast protein aggregation using a proteomic approach” PhD student of the Department of Biochemistry and Molecular Biology, Institute of Biotechnology and Biomedicine, University Autónoma of Barcelona, Spain (on behalf of Integrated Action CRUP), 2011

● L Hernández-Castellano “The effect of colostrum intake on lambs: plasma proteomic profile and immunoglobulin concentration” PhD student, Department of Animal Science, Universidad de Las Palmas de Gran Canaria, Spain, 2011

● M Mau, “Identification of tannin-binding proteins in saliva of *Papio hamadryas* using MS/MS mass spectrometry” Researcher from the University of Bonn, Germany, 2011

- M Bhide, P Mlynarcik “Training on differential proteomics by DIGE” Researcher and PhD student from the Faculty of Veterinary Medicine, University of Kosice, Slovakia (on behalf of bilateral collaboration FCT), 2012
- S Mercurio “Differential glicoproteomics of cell free coelomic fluido of *Asterias rubens*”, PhD training on behalf of Eramus Program, Milano University, Italy, 2012-2013
- A Moumenne “Characterization of the outer membrane proteome of virulent *E. Ruminatum*”, PhD student from Antilles/Guyane University, Guadeloupe, France (on behalf of Integrated Action CRUP), 2012-2013
- V Uliana “Differential glicoproteomics and phosphoproteomics of cell free coelomic fluido of *M. glacialis*” Undergraduated student of Pharmaceutical Sciences, Departament of Fisiological Sciences from the Centre of Health Sciences, Federal University of Espírito Santo, Vitória, Brasil (on behalf of the Program Ciência sem Fronteiras, CAPES/CNPq), 2012-2013

#### Teaching Activities:

##### Undergraduated Courses

- Laboratory and exercise classes of several curricular units of several Graduation Courses - *Chemistry I, Biochemistry and Bioinorganic Chemistry, Metabolism and Energetics and Biochemistry I*, Évora University, 1990 - 1998
- Coordination of several curricular units of several Graduation Courses - *Chemistry I, Biochemistry and Bioinorganic Chemistry, Metabolim and Energetics, Biochemistry I, General Biochemistry and Biochemistry*, Évora University, 1998- 2002

##### Post-Graduation and Master Courses:

- Module on *Mass Spectrometry* for the *Bioinformatics Post-Graduation* Course under the joint responsability of the Faculty of Sciences, University of Lisbon and Gulbenkian Institute of Sciences, 2003-2005
- Module on *Analytical Methods for the Characterization of Recombinant Proteins* included in the *Master Course on Regulation and Evaluation of Pharmaceuthicals and Health Products*, Faculty of Pharmacy, University of Lisbon, 2006 and 2012
- Module on *Mass Spectrometry* for the *Course on Proteomics in Life Sciences*, *International Postgraduated Programme*, School of Health Sciences, University Minho, 2006
- Module on *Mass Spectrometry* included in the *Master Course on Biomedical Inorganic Chemistry* under the join responsability of the Faculty of Sciences, University of Lisbon and Institute for Nuclear Technology, 2004-2007



- Module on *Mass Spectrometry* included in the *Master Course on Molecular Genetics*, University of Minho, 2007
- Module on *Protein identification by Mass Spectrometry* of the curricular unit on *Methods of Molecular Analysis* included in the *Master Course on Functional Biology*, Agronomic Institute, Technical University of Lisbon, 2007
- Module on *Protein identification by Mass Spectrometry* of the curricular unit on *Transcriptomics and Proteomics* included in the *Master Course on Functional Biology*, Agronomic Institute, Technical University of Lisbon, 2006-2010
- Module on *Protein identification by Mass Spectrometry* of the curricular unit on *Transcriptomics and Proteomics* included in the *Master Course on Clinical Assays*, Faculty of Pharmacy, University of Lisbon, 2007-2010
- Module on *Protein identification by Mass Spectrometry* of curricular unit on *Laboratorial Techniques in Chemistry and Biochemistry* included in the *Master Course on Animal Production Engineering*, Agronomic Institute, Technical University of Lisbon, 2008-2010
- Module on *Protein identification and characterization by Mass Spectrometry* of curricular unit *Biomolecular Methods* included in the *Master Course on Molecular Biology and Genetics*, Faculty of Sciences, University of Lisbon, 2012
- Coordination of the curricular unit *Bioanalytical Procedures* included in the *Master on Biochemistry for Health*, ITQB/FCT/FCM, 2013
- Module on *Protein identification by Mass Spectrometry* included in the curricular unit *Integrated Laboratorial Practices I* included in the *Master on Biochemistry for Health*, ITQB/FCT/FCM, 2013
- Module on *Mass Spectrometry* included in the curricular unit *Biomolecular Methods* included in the *Master on Biochemistry for Health*, ITQB/FCT/FCM, 2013

#### PhD Programs:

- Module on “*Introduction to MS*” and “*MS applications - identification of proteins*”, PhD Annual Program in Chemistry, Biochemistry, Biology, Engineering Sciences, ITQB-UNL, Oeiras, 2003–2012
- Module on *Protein identification by Mass Spectrometry* included in the Annual PhD Program on Computational Biology, Gulbenkian Institute of Sciences, 2008-2011

#### Workshops:

- “*MS applications/Protein identification*”, Proteomic Workshop, Algarve University, 2011 and 2012
- “*De novo sequencing*”, Proteomic Workshop, Aveiro University, 2010 and 2012
- “*De novo sequencing*”, Proteomic Course, CIIMAR, Oporto University, 2011



#### Participation in Master and PhD examinations:

- Master Thesis on Molecular Microbiology "Immunologic response of *Drosophila melanogaster*: a proteomic approach", University of Aveiro, S P Guedes, 2004
- Master Thesis on Biology "Detection of proteins from the resistant and infection state of *Steinernema Carpocapsae*", University Açores, JM Martins, 2005
- Master Thesis on Molecular Biotechnology "Influence of the HDV genomic and antigenomic RNA expression in human liver cells proteome", IST-Technical University of Lisbon, M L Mendes, 2006
- Master Thesis on Cell Biology and Biotechnology "A study of the differentially expressed proteins during the induction of somatic embryogenesis in *Medicago truncatula* – a proteomic approach", Faculty of Sciences - University of Lisbon, J Salvado, 2008
- Master Thesis on Bioinformatics and Computational Biology "Protein identification in FTMS: a new scoring system and data analysis platform development" Faculty of Sciences - University of Lisbon, J Canhita, 2009
- Master Thesis on Cell Biology and Biotechnology "Differential Proteomics: A study in *M truncatula* somatic embryogenesis", Faculty Sciences-University of Lisbon, M Ventosa, 2010
- Master Thesis on Cell Biology and Biotechnology "*M truncatula* and water deficit: exploring a new method for trehalose 6-phosphate quantification and characterization of three abscisic acid responsive promoters", Faculty Sciences-University of Lisbon, A Alcântara, 2011
- Master Thesis on Cell Biology and Biotechnology "Investigation of the effects of weight loss on *Ovis aries* muscle – A proteomic study on three breeds with different levels of adaptation to nutritional stress", Faculty of Sciences - University of Lisbon, R Palhinhas, 2011
- PhD Thesis on Biology "Analysis of protein expression in *Olea europaea* L., a proteomic approach", ITQB-New University of Lisbon, A M O Campos, 2005.
- PhD Thesis on Sciences "Biomechanical study of adhesion in sea urchins (Echinodermata, Echinoidea), and its relationship with other species distribution in the wave-swept environment", University of Mons-Halnaut, Belgium, R Santos, 2005
- PhD Thesis on Biochemistry "Biochemical effects of protein glycation by methylglyoxal in *Saccharomyces cerevisiae*", Faculty of Sciences - University of Lisbon, R Gomes, 2008
- PhD Thesis on Biochemistry "Structural and functional characterization of *Drosophila melanogaster* kinetocore", ITQB – New University of Lisbon, G da Costa, 2008

- PhD Thesis on Animal Production "Salivary proteomic as a tool to understand ingestive behavior: an experimental study in sheep (*Ovis aries*), goat (*Capra hircus*) and mice (*Mus musculus*)", University of Évora, E Lamy, 2009
- PhD Thesis on Biomedical Sciences "Study of the influence that the siRNAs have in the replication of the hepatitis delta virus and analysis of the genetic expression of infected cells", IHMT – New University of Lisbon, S Mota, 2009
- PhD Thesis on Biochemistry "Cystic Fibrosis by Proteomics: identification of molecular targets for therapeutic intervention", ITQB – New University of Lisbon, P Alves, 2009
- PhD Thesis on Biochemistry "Protein glycation and methylglyoxal metabolism in Parkinson's disease" Faculty of Sciences - University of Lisbon, H Miranda, 2010
- PhD Thesis on Biochemistry "Development of new methodologies in sample treatment for proteomics workflow based on enzymatic probe sonication technology and MS" Faculty of Sciences and Technology – New University of Lisbon, R Carreira, 2011
- PhD Thesis on Biomedical Sciences "Analysis of changes in the host cell proteome during hepatitis D virus infection" IHMT- New University of Lisbon, M Mendes, 2011
- PhD Thesis on Biology "Towards the identification of biomarkers for cystic fibrosis by proteomics" Faculty of Sciences - University of Lisbon, N Charro, 2011
- PhD Thesis on Biochemistry "Effects of gold nanoparticles on oxidative stress" Cork University (Ireland), W Hu, 2012
- PhD Thesis on Biotechnology "Global responses to phenol and myrcene in *Pseudomonas* at the level of cell membrane proteome unveiled by quantitative proteomics" Instituto Superior Técnico – Technical University of Lisbon, Catarina Rodrigues, 2012
- PhD Thesis on Marine Zoology "Gene expression and regeneration in ophiuroids: A study of transcriptional activity and regeneration in the temperate *Amphiura filiformis* and Antarctic *Ophionotus victoria*" Gotheborg University (Sweden), G Burns, 2012
- PhD Thesis on "Characterization of lipophorin in lepidopteran insect silkworm, *Bombyx mori* and its role in lipid transport to developing oocytes" Bharathidasan University (India), T Pratheep, 2013

#### Organization of Courses and Scientific Meetings

- 2<sup>nd</sup> Annual Meeting of Portuguese Proteomic Network-Procure, 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

#### Invited Seminars:

- “MS: what it is and what is for”, ISA-UTL, on behalf of the ITQB/ISA Seminars, Portugal, 2005
- “Protein analysis by MALDI-TOF/LC-MS” within the Workshop on Functional Genomics in a Parasitic Model, Azores University, Portugal, 2007
- “Bioapplications in MS” on behalf of “Professor António Xavier Seminars”, FCUL, Portugal, 2009
- “MALDI and electrospray for MS applications”, Vigo University, Spain, 2011
- “MALDI e electrospray for MS applications at ITQB”, Faculty of Pharmacy, Lisbon University, Portugal, 2011
- “MS for the Veterinary and Farm Animal World”, Farm Animal Proteomics Meeting, Vilamoura, Portugal, 2012
- “ABC of Proteomics”, Workshop Proteomics in Biology, Algarve University, 2012
- “Proteomics toward Biomedical applications”, IHMT-UNL, Portugal, 2012
- AV Coelho "PTMomics – a pot-pourri of experimental approaches". COST Action “Farm animal proteomics” FA1002 Košice, Slovakia, 2013.
- “Molecular insights into echinoderms regeneration Cephalopods as Models for Tissue Regeneration: a Workshop” Stazione Zoologica Anton Dohrn, Napoli, 2013

#### Referee of Scientific Journals:

- 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)

#### Project Evaluation

- Agencia Nacional de Investigación e Innovación de Uruguay, 2012
- National Science Centre of Poland, 2013

#### Colaborations and Projects:

##### EUROPEAN PROJECTS

- “Converting C<sub>3</sub> to C<sub>4</sub> photosynthesis for sustainable agriculture”, Funded under 7th FWP (Seventh Framework Program), Project Ref: 289582, 2012-2013
- “Biological adhesives: from biology to biomimetics”, Cost Action TD0906, 2010 – 2014
- "Farm Animal Proteomics", Cost Action FA1002, 2010-2014
- “Mass Spectrometry Imaging: New Tools for Healthcare Research”, Cost Action BM1104, 2011-2015
- “TBomics - an OMICS approach for diagnosing tuberculosis”, New INDIGO Partnership Programme on Biotechnology applied to Human Health (INDIGO-DBT2-062), ERA-NET Project, 2013-2015 (European coordinator)
- 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), 2013-2016

##### INTERNATIONAL NETWORKS

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

##### INTERNATIONAL BILATERAL COLLABORATIONS

- “Protein interactions studies by mass spectrometry”, Bilateral Colaboration with University of Southern Denmark, supported by GRICES (Portugal) and DANISH RECTOR’S CONFERENCE, (2004)

- “Caracterização da transglutaminase em *Zea mays* L. e identificação de proteínas inter actuanes”, Bilateral Colaboration with Departamento de Genética Molecular, Instituto de Biologia Molecular de Barcelona (Consorti CSIC-IRTA) GRICES, (2006-2009)

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

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

#### OTHER INTERNATIONAL PROJECTS

- “Parkinson’s Disease Proteomics”, Center for Human Genetics, Duke University Medical Center, USA.

#### RESEARCH CONTRAT

- “Identification of biomarkers using proteomic and transcriptomic approaches”, in collaboration with the Faculty of Medical Sciences – New University of Lisbon, since 2013

#### NATIONAL PROJECTS

- “Application of new phasing methods to explore structural diversity in the cytochrome family”, supported by program PRAXIS, P/BIO/12080/1998, 2000-2003

- “Efeito de compostos fenólicos na sensibilidade gustativa: estudos de cinética celular e adaptações químicas e morfológicas da cavidade bucal”, supported by program SAPIENS, POCTI/1999/CVT/33039, 2001-2003

- “Mecanismos de resposta a oxigénio e ferro em procariotas anaeróbicos”, supported by program SAPIENS, BIO/36558/99-00, 2000-2003

- “Estudo da estrutura e função das proteínas centrossomais HsMob na divisão celular”, supported by program SAPIENS, 2002-2004

- “Structural characterization of MrkD protein from *Klebsiella pneumoniae* : implications in the epithelial adhesion properties of the microorganism”, supported by program SAPIENS, 2003-2005

- “In search of new molecular targets for the development of novel therapeutic strategies for cystic fibrosis”, supported by program POCTI, MGI/40878/2001, 2002-2005

- “Genetics, Stoichiometry and Kinetics of Multiple Protein Assembly: the case for a Rotavirus Like Particle”, supported by program POCTI, FCT/POCTI/BIO/55975/2004, 2004-2007
- “Proteomics of Chronic Lung Diseases Leading to Biomarkers and Therapeutic Target Discovery”, supported by program POCTI, POCTI/SAU-MMO/56163/2004, 2004-2007
- “Mould proteome regulation by substrate bioavailability: depolymerising enzymes likely to alter biopolymer nanostructure”, supported by program POCTI, POCTI/QUI/56229/2004, 2004-2007
- “Gene expression changes during hepatitis delta virus infection. I. Analysis of the cellular proteome.”, supported by program POCTI, POCTI/SAU-IMI/55112/2004, 2004-2007
- “Diversity of *Medicago*-nodulating rhizobial strains from Southern Portugal”, project supported by ITQB, IBET e EAN, 2005-2006
- “Enzymatic Degradation and Synthesis of Azo and Antraquinonic Dyes”, PTDC/BIO/72108/2006, 2007- 2010
- “BIOSEAGLUE – Caracterização dos adesivos temporários dos ouriços do mar por espectrometria de massa”, supported by Programa Damião de Góis, 2008-2011
- “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, 2007-2011
- “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, 2010-2013
- “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, 2011-2014

- “Hepatic toxicity in HIV-infected individuals exposed to nevirapine” PTDC/SAU-TOX/111663/2009, 2011-2014
- CEDOC-FCM-UNL internal project “Biomarkers identification of anti-TNF agents efficacy in Ankylosing Spondylitis patients using a proteomic approach”, 2010-2011
- “Lactation and milk production in Goat (*Capra hircus*): identifying molecular markers underlying adaptation to seasonal weight loss” PTDC/CVT/116499/2010, 2012-2014
- “Borrow some Boron: New Strategies for Protein Modification!” PTDC/QUI-QUI/118315/2010, 2012-2014
- “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, 2013-2015

#### Publications in Peer Reviewed Journals

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