

Hugo Miguel Raposo Correia Botelho

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Functional Genomics and Proteostasis Group (FunGP)
Biosystems and Integrative Sciences Institute (BioISI)
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BIOGRAPHICAL NOTE

I am a scientist with a strong expertise in microscopy, cell biology and protein folding *in vivo* and *in vitro*. In 2010 I obtained a PhD in biochemistry (specialty: biophysics) for studies on the folding and aggregation properties of bacterial, archaeal and human proteins under the supervision of Dr. Cláudio M. Gomes (ITQB/UNL).

In 2012 I joined Margarida D. Amaral's lab at FCUL to research novel therapeutics for the genetic misfolding disease Cystic Fibrosis (CF). For 1.5 years I was trained on high-throughput microscopy, RNA interference screening and membrane trafficking at EMBL Heidelberg under the supervision of Dr. Rainer Pepperkok. Since 2014 Currently I have been employing siRNA-based screens to identify and characterize novel therapeutic target genes for the most common CF mutation.

Over the last 3 years I have contributed to establishing a high-throughput microscopy facility at BioISI/University of Lisboa. I am also actively engaged in developing and deploying automated image analysis algorithms for high throughput microscopy, big data analysis and secure data storage. I have authored 13 original peer reviewed publications in international journals, 3 book chapters, have supervised students and post-docs and am currently a PI in a research grant.

MAIN SKILLS

Cystic Fibrosis	CFTR traffic and folding; Cystic Fibrosis cellular models; therapeutic target identification.
Microscopy	High-throughput microscopy screening assays; Automated microscopy image analysis and quantification (fluorescence & brightfield); High content analysis (ImageJ, CellProfiler).
Cell Biology	Assay design; Eukaryotic and prokaryotic cell culture; RNA interference; Membrane trafficking.
Data Science	Development of statistical analysis software suitable for large datasets (R, Python).
Biochemistry	Protein expression, purification and characterization; Liquid chromatography; SDS-PAGE; Western blot; Proteomics.
Biophysics	Spectroscopy (UV-visible Absorption, Fluorescence Emission, Circular Dichroism, FT-IR, Dynamic Light Scattering); Protein folding, misfolding and aggregation; Thermodynamics; Protein aggregation; Electrochemistry.
Management	Lab work supervision; Project management; Establishment of a microscopy facility: design and implementation of workspaces, IT infrastructure and work pipelines.

ACADEMIC PATHWAY

2010	PhD in Biochemistry. Biophysics specialization. ITQB/UNL. Approved by unanimity.
2006	Degree in Biochemistry. FCUL. Pre Bologna. Mark: 18/20.

SCIENTIFIC ACTIVITY

2012, Apr - today	Post-Doctoral Fellow. Functional Genomics and Proteostasis Group. BioISI, FCUL. Supervisor: Margarida D. Amaral. Theme: Identification of genes modulating wt- and rescuing F508del-CFTR traffic.
2012, Jul – 2013, Dec	Post-Doctoral Fellow. EMBL, Heidelberg. Supervisors: Rainer Pepperkok and Margarida D. Amaral. Theme: Screening of siRNA libraries to identify modulators of wt- and F508del-CFTR traffic.
2011, Sep – 2012, Apr	Post-Doctoral Fellow. Protein Biochemistry, Folding and Stability Group. ITQB/UNL. Supervisor: Cláudio M. Gomes. Theme: Biophysical characterization of amyloidogenesis in the S100 proteins.
2011, Jul - Oct	Post-Doctoral Fellow. Protein Biophysics and Biochemistry Group. Department of Neuropathology. Freiburg University, Germany. Supervisor: Günter Fritz. Theme: Neuropathological analysis of S100 deposits in animal and cellular models of Alzheimer's disease; Crystallographic characterization of S100 amyloids.
2010, Nov - 2011, Jun	Post-Doctoral Fellow. Protein Biochemistry, Folding and Stability Group. ITQB/UNL. Supervisor: Cláudio M. Gomes. Theme: Characterization of the amyloidogenic propensity of S100 proteins in physiological-like conditions.
2010, Jan - Feb	Visiting PhD Student. Department of Medical Biochemistry and Biophysics. Umeå University, Sweden. Supervisor: Ludmilla Morozova-Roche. Theme: Cytotoxicity of S100 amyloids.
2006 - 2010	PhD Student. Protein Biochemistry, Folding and Stability Group. ITQB/UNL. Supervisor: Cláudio M. Gomes. Main themes: Modulation of the conformation and stability of S100 proteins by metal ions. S100 protein amyloidogenesis. Characterization of the conformation and stability of iron-sulfur proteins.
2005 - 2006	Undergraduate research student. Biochemistry course. Protein Biochemistry, Folding and Stability Group. ITQB/UNL. Supervisor: Cláudio M. Gomes. Theme: Proteome wide analysis of protein stability in the hyperthermophile <i>Sulphurisphaera sp.</i>

LECTURING ACTIVITY

2016, Nov 15	Microscopia de fluorescência [Fluorescence Microscopy]. Lecture for FCUL's Biochemistry Master's course. Course responsible: Cláudio M. Gomes.
2016, Jul 13	BioISI PhD Programme in Biology/Biochemistry (BioSYS). Laboratory classes. Theme: high throughput microscopy: Using automated fluorescence microscopy to image a membrane protein in cells treated with an siRNA library.
2016, Jun 17	Data analysis and management in high content microscopy screening. 2 nd Course on High Content Screening and Image Analysis for Biosciences. I3S. June 14 th -17 th . Porto, Portugal.
2016, Feb 17	High-throughput microscopy & screening. Lecture for FCUL's Animal Biology Department Master's course. Bioimaging module. https://sites.google.com/site/bioimagingfcul/ . Course responsible: Gabriel Martins.
2015, Mar 16-20	BioISI PhD Programme in Biology/Biochemistry (BioSYS). Laboratory classes. Theme: high throughput screening: siRNA transfection, immunofluorescence and automated imaging of CFTR expressing cells.

2014, Apr 7 - 9	BioFIG PhD Programme in Biology/Biochemistry (BioSYS). Laboratory classes. Theme: high throughput screening: siRNA transfection, immunofluorescence and automated imaging of CFTR expressing cells.
2013, Oct 23 - 24	EMBL Predoc Course 2013. Cell Biology module. Practical sessions. Theme: High Content Screening in Cystic Fibrosis Biomedical Research.

FELLOWSHIPS

2014 - 2017	Post-Doc Fellowship. FCT (SFRH/BPD/93017/2013)
2012 - 2014	Post-Doc Fellowship. Cystic Fibrosis Foundation, USA (Reference #7207534).
2011	Post-Doc Fellowship. FCT (Research Project PTDC/QUI/70101/2006).
2011	FEBS Short Term Grant.
2006 - 2010	PhD Fellowship. FCT (SFRH/BD/31126/2006).

RESEARCH GRANTS AS PI

2017	BioISI Project. "A new class of drugs for CF therapy - Dual CFTR/ANO1 Modulators from Portuguese natural products". BioISI Strategic Project Program grant 10,000€ PI: Hugo M. Botelho.
2016	BioISI Project. "Natural compounds as a source of novel drug leads for Cystic Fibrosis". BioISI Strategic Project Program grant 10,000€ PI: Hugo M. Botelho.
2016	BioISI Post-Doc "The identification of new natural compounds of high therapeutic potential for Cystic Fibrosis by high-throughput microscopy screens". BioISI Strategic Project Program. Supervisor: Hugo M. Botelho.

PARTICIPATION IN RESEARCH PROJECTS

2016 - 2018	FCT Research Grant (PTDC/BIM-MEC/2131/2014) "Novel CFTR Traffic Factors Related with Epithelial Cell Differentiation: Potential Therapeutic Targets for Cystic Fibrosis". 199,916€ PI: Margarida D. Amaral.
2016 - 2018	FCT Research Grant "MIMED". PI: André O. Falcão.
2014 - 2017	Cystic Fibrosis Trust UK. Strategic Research Centre Grant. "Innovative non-CFTR approaches to cystic fibrosis therapy". 750,000 £ PI: Michael Gray.
2011 - 2013	Cystic Fibrosis Foundation, USA (Ref 7207534) "Identification of novel targets rescuing of F508del-CFTR traffic: Mechanism of action". 227,881 US\$ PI: Margarida D. Amaral.
2012 - 2015	FCT Research Grant (PTDC/QUI-BIQ/117789/2010) "Mechanisms of SOD1 toxic aggregation in neurodegenerative processes". 75,000€ PI: Cláudio M. Gomes.
2011 - 2012	Núcleo Regional do Sul / Liga Portuguesa Contra o Cancro. "Terry Fox" Research Grant 2011/2012 "Amyloidogenesis of the S100A8/A9 cytokine as an anti-proliferative mechanism in prostate cancer". 15,000€ PI: Cláudio M. Gomes.
2006 - 2009	FCT Research Grant (PTDC/QUI/70101/2006) "Towards the understanding of the energetic and structural interplay between metal sites and protein folding". 70,800€ PI: Cláudio M. Gomes.

2006 - 2009 FCT Research Grant (PTDC/SAU-GMG/70033/2006) "Functional analysis and origins of the pathophysiology of mutations within genes of the fatty acid oxidation pathway: implications in the multiple acyl-CoA dehydrogenase deficiency disorder". 70,801 € PI: Cláudio M. Gomes.

COMPLEMENTARY COURSES

2015 - 2016 Johns Hopkins University Data Science specialization via coursera.org:
R Programming <http://coursera.org/verify/MHH44DPJV9>
The Data Scientist's Toolbox <http://coursera.org/verify/DXXZYL9Y38>
Getting and Cleaning Data <http://coursera.org/verify/Y22WXPWFYQ>
Exploratory Data Analysis <http://coursera.org/verify/5CLHGZRDY>
Reproducible Research <http://coursera.org/verify/MQBB6KSGLT>
Statistical Inference <https://coursera.org/verify/VD4X5RVBYTBB>
Developing Data Products <https://coursera.org/verify/96T9392DXHVJ>

2015 Python Programming via codecademy.com: www.codecademy.com/hmbotelho#completed

2013 Volocity workshop. Advanced Light Microscopy Facility, EMBL Heidelberg, February 25, Heidelberg.

2013 Imaris workshop. Advanced Light Microscopy Facility, EMBL Heidelberg, February 22, Heidelberg.

2013 Basics in Optical Sectioning Microscopy. Advanced Light Microscopy Facility, EMBL Heidelberg, February 18-21, Heidelberg.

2013 Basics in Light Microscopy (widefield). Advanced Light Microscopy Facility, EMBL Heidelberg, January 28-31, Heidelberg.

2012 Image Processing and Analysis Course (Basics for Image Processing and Analysis, Macro programming with ImageJ), by Kota Miura. Centre for Molecular and Cellular Imaging, EMBL Heidelberg. November 5-16. Heidelberg.

2012 Practical course on siRNA design, by Beate Neumann. Advanced Light Microscopy Facility, EMBL Heidelberg. July 26. Heidelberg.

2011 4th CERMAX course on basic NMR. ITQB/UNL. July 14-17. Oeiras.

2009 8th Short Course of the Portuguese Biophysical Society "Systems Biology". October 30-November 1. Santarém.

2009 "A compact course in Vibrational Spectroscopy", by Peter Hildebrandt, TU Berlin. January. ITQB/UNL. Oeiras.

SUPERVISION EXPERIENCE

2016 - 2018 Catarina Baptista. Post-Doc. Theme: The identification of new natural compounds of high therapeutic potential for Cystic Fibrosis by high-throughput microscopy screens. BioISI Post-Doc

CO-SUPERVISION

2014 - 2015 Margarida Quaresma. Masters Student FCUL. Theme: Effect of TGF β signaling on CFTR protein: consequences for epithelial differentiation in CF.

2010 - 2011	Sofia Carvalho. Masters Student FCUL. Theme: Molecular and mechanistic aspects of the effect of metal ions in the conformation and amyloidogenesis of the S100B protein.
2011, Jan	João Leandro. Post-Doc Fellow FFUL. Theme: Conformation and Stability of Phenylalanine Hydroxylase.
2010, May - Dec	Francesco Barbero. Masters Student Torino University. Theme: Elucidation of the molecular basis of the stabilization of the <i>Acidianus ambivalens</i> Rieske Ferredoxin by using rationally designed mutants.
2010, Mar	Dennis Petrasch. Undergraduate Student TU Darmstadt. Theme: Elucidation of the molecular basis of the stabilization of the <i>Acidianus ambivalens</i> Rieske Ferredoxin by using rationally designed mutants.
2009, Oct	Andreas Veith. PhD Student TU Darmstadt. Theme: Assembly of wild type and mutant <i>Acidianus ambivalens</i> Sulfur Oxygenase Reductase.
2007, Jan - Mar	Cátia Nascimento. PhD Student FFUL. Theme: Conformation and stability of Phenylalanine Hydroxylase.

SERVICE AS EXPERT REVIEWER

Biochimie

FEBS Letters

Journal of Biotechnology

Journal of Dermatological Research

Metallomics

Physical Chemistry Chemical Physics

PLoS One

Scientific Reports

PUBLICATIONS

Online publication list and statistics:

<http://www.researcherid.com/rid/B-3092-2008>

<http://orcid.org/0000-0002-4208-1086>

<https://www.scopus.com/authid/detail.url?authorId=15030102200>

<http://www.ncbi.nlm.nih.gov/sites/myncbi/1X9J-JV7QTAQu/bibliographiy/47769077/public>

<http://www.linkedin.com/pub/hugo-botelho/27/5b9/b60>

<http://scholar.google.com/citations?user=nXftyYwAAAAJ>

Theses

1. Botelho, H.M. (2010) PROTEIN FOLDING AND METAL IONS – CONFORMATIONAL AND FUNCTIONAL INTERPLAY. Biochemistry PhD Thesis, ITQB/UNL.
2. Botelho, H.M. (2006) PESQUISA, IDENTIFICAÇÃO E CARACTERIZAÇÃO DE PROTEÍNAS HIPERESTÁVEIS NO PROTEOMA SOLÚVEL DA ARCHAEA HIPERTERMOFÍLICA *Sulfurisphaera sp.*. Biochemistry Degree Thesis, FCUL.

Papers in international peer reviewed journals

1. Igreja, S., Clarke, L.A., Botelho, H.M., Marques, L., Amaral, M.D. (2015) CORRECTION OF A CYSTIC FIBROSIS SPLICING MUTATION BY ANTISENSE OLIGONUCLEOTIDES. **Human mutat**, 37(2): 209-2015.

2. Clarke, L.A., Botelho, H.M., Sousa, L., Falcão, A.O., Amaral, M.D. (2015) TRANSCRIPTOME META-ANALYSIS REVEALS COMMON DIFFERENTIAL AND GLOBAL GENE EXPRESSION PROFILES IN CYSTIC FIBROSIS AND OTHER RESPIRATORY DISORDERS AND IDENTIFIES CFTR REGULATORS. **Genomics**, 106(5): 268-277.
3. Botelho H.M., Uliyakina, I, Awatade, N.T., Proença, M.C., Tischer, C., Sirianant, L., Kunzelmann, K., Pepperkok, R., Amaral, M.D. (2015) PROTEIN TRAFFIC DISORDERS: AN EFFECTIVE HIGH-THROUGHPUT FLUORESCENCE MICROSCOPY PIPELINE FOR DRUG DISCOVERY. **Sci Rep**, 5, 9038.
4. Carvalho, S.B., Botelho, H.M., Leal, S.S., Cardoso, I., Fritz, G., Gomes, C.M. (2013) INTRINSICALLY DISORDERED AND AGGREGATION PRONE REGIONS UNDERLIE β -AGGREGATION IN S100 PROTEINS. **PLoS ONE**, 8, e76629.
5. Sá-Moura, B., Simões, A.M., Fernandes, H., Fraga, J., Abreu, I.A., Botelho, H.M., Gomes, C.M., Marques, A.J., Dohmen, J., Ramos, P., Macedo-Ribeiro, S. (2013) BIOCHEMICAL AND BIOPHYSICAL CHARACTERIZATION OF RECOMBINANT YEAST PROTEASOME MATURATION FACTOR UMP1. **Comput Struct Biotechnol J**, 7(8), e201304006.
6. Botelho, H.M., Leal, S. S., Cardoso, I., Yanamandra, K., Morozova-Roche, L. A., Fritz, G., Gomes, C.M. (2012) S100A6 AMYLOID FIBRIL FORMATION IS CALCIUM-MODULATED AND ENHANCES SUPEROXIDE DISMUTASE-1 (SOD1) AGGREGATION. **J Biol Chem**, 287(50): 42233-42.
7. Leal, S.S.*, Botelho, H.M.*, Gomes, C.M. (2012) METAL IONS AS MODULATORS OF PROTEIN CONFORMATION AND MISFOLDING IN NEURODEGENERATION. **Coord Chem Rev**, 256: 2253-2270. (*equally contributing authors).
8. Veith, A., Botelho, H.M., Kindinger, F., Gomes, C.M., Kletzin, A. (2012) THE SULFUR OXYGENASE REDUCTASE FROM THE MESOPHILIC BACTERIUM *Halothiobacillus Neapolitanus* IS A HIGHLY ACTIVE THERMOZYME. **J Bacteriol**, 194: 677-685.
9. Botelho, H.M., Gomes, C.M., (2011) STRUCTURAL REORGANIZATION RENDERS ENHANCED METALLOPROTEIN STABILITY. **Chem Commun**, 47: 11149-11151.
10. Fritz, G., Botelho, H.M., Morozova-Roche, L.A., Gomes, C.M., (2010) NATURAL AND AMYLOID SELF-ASSEMBLY OF S100 PROTEINS: STRUCTURAL BASIS OF FUNCTIONAL DIVERSITY. **FEBS J**, 277: 4578-90.
11. Botelho, H.M., Leal, S.S., Veith, A., Prosinecki, V., Bauer, C., Fröhlich, R., Kletzin, A., Gomes, C.M. (2010) ROLE OF A NOVEL DISULFIDE BRIDGE WITHIN THE ALL-BETA FOLD OF SOLUBLE RIESKE PROTEINS. **J Biol Inorg Chem**, 15: 271-281.
12. Botelho, H.M., Koch, M., Fritz, G., Gomes, C.M. (2009) METAL IONS MODULATE THE FOLDING AND STABILITY OF THE TUMOR SUPPRESSOR PROTEIN S100A2. **FEBS J**, 276(6): 1776-86.
13. Prosinecki, V., Botelho, H.M., Francese, S., Mastrobuoni, G., Moneti, G., Urich, T., Kletzin, A., Gomes, C.M. (2006) A PROTEOMIC APPROACH TOWARD THE SELECTION OF PROTEINS WITH ENHANCED INTRINSIC CONFORMATIONAL STABILITY. **J Proteome Res**, 5(10): 2720-6.

Book Chapters

1. Amaral M.D., Farinha C.M., Matos P., Botelho H.M. (2016) INVESTIGATING ALTERNATIVE TRANSPORT OF INTEGRAL PLASMA MEMBRANE PROTEINS FROM THE ER TO THE GOLGI: LESSONS FROM THE CYSTIC FIBROSIS TRANSMEMBRANE CONDUCTANCE REGULATOR (CFTR), *In* Unconventional Protein Secretion: Methods in Molecular Biology, vol. 1459 (Pompa, A., and De Marchis, F., Eds.) 105-126. Humana Press, New York.
2. Carvalho, S.B., Cardoso, I., Botelho, H.M., Yanamandra, K., Fritz, G., Gomes, C.M., Morozova-Roche, L.A. (2014) STRUCTURAL HETEROGENEITY AND BIOIMAGING OF S100 AMYLOID ASSEMBLIES, *in* Bionanoimaging: Protein Misfolding and Aggregation (Uversky, V., Lyubchenko, Y., eds), 197-212. Academic Press, Boston.
3. Botelho, H.M., Fritz, G., Gomes, C.M. (2012) ANALYSIS OF S100 OLIGOMERS AND AMYLOIDS, *in* Amyloid Proteins: Methods and Protocols, Methods in Molecular Biology, vol. 849 (Sigurdsson E.M., Calero, M., Gasset, M., eds), 373-386. Springer Science+Business Media.

Abstracts in the Proceedings of Scientific Meetings

1. Carvalho, S. B., Leal, S.S., Botelho, H.M., Cardoso, I., Fritz, G., Gomes, C.M. (2013) CROSS TALKS BETWEEN AMYLOID-FORMING PROTEINS IN NEURODEGENERATION. **Eur Biophys J Biophys Lett**, 42: S61.

2. [Botelho, H.M.](#), Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) HIGH THROUGHPUT SCREEN REVEALS GENES REGULATING WT-CFTR AND RESCUING F508DEL-CFTR TRAFFIC. **Pediatr Pulmonol**, 48 (S36): 208.
3. [Botelho, H.M.](#), Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) HIGH THROUGHPUT SCREENING AS A SOURCE FOR NOVEL CYSTIC FIBROSIS THERAPEUTIC TARGETS. **J Cyst Fibros**, 12 (Suppl 1): S42.
4. Dahimène, S., Romão, A., [Botelho, H.M.](#), Palma, M., Correia, A.R., Farinha, C.M., King-Underwood, J., Williams, J., Hirst, S., Gomes, C.M., Amaral, M.D. (2013) SCREENING FOR NOVEL F508DEL-CFTR CORRECTORS IDENTIFIED BY PHARMACOPHORE MODELLING THROUGH AUTOMATED MICROSCOPY AND NBD1 FOLDING ASSAYS. **J Cyst Fibros**, 12 (Suppl 1): S45.
5. [Botelho, H.M.](#), Betz C., Kierdorf, K., Prinz, M., Gomes, C.M., Fritz, G. (2011) A NEW EMERGING ROLE OF S100B IN AMYLOID PLAQUE FORMATION. **Clin Neuropathol**, 30: 270.
6. [Botelho, H.M.](#), Koch, M., Fritz, G., Gomes, C.M. (2007) CONFORMATIONAL CONTROL OF S100A2 BY METAL IONS. **J Biol Inorg Chem**, 12 (Suppl 1): S72-S72.
7. Nascimento, C., [Botelho, H.M.](#), Tavares de Almeida, I., Gomes, C.M., Leandro, P. (2007) FOLDING RESCUE OF MILD PKU MUTATIONS BY CHEMICAL CHAPERONES. **J Inherit Metab Dis**, 30 (Suppl 1): 11-11.

Software portfolio

<http://github.com/hmbotelho>

INVITED ORAL PRESENTATIONS

1. [Botelho H.M.*](#) (2017) CFTR TRAFFIC – FUNCTIONAL GENOMICS SCREENS TO IDENTIFY NOVEL REGULATORS. 40th European Cystic Fibrosis Conference. June 9. Seville, Spain.
2. [Botelho H.M.*](#) (2016) INNOVATING THE SEARCH FOR NOVEL CYSTIC FIBROSIS THERAPIES USING HIGH CONTENT MICROSCOPY SCREENING. BioISI Post Grad Seminar. October 13. Lisboa, Portugal.
3. Awatade, N.T.* , [Botelho, H.M.](#), Felício, V., Clarke, L.A., Ramos, M.M., Amaral, M.D. (2015) ASSESSMENT OF CFTR ACTIVITY *EX VIVO* AS A BASIS FOR PERSONALISED MEDICINE. 5th Structure and Function of Ionic Channels and Transporters Workshop. November 12th-14th. Lisboa, Portugal.
4. [Botelho, H.M.*](#) (2015) A HIGH THROUGHPUT FLUORESCENCE MICROSCOPY PIPELINE FOR DRUG DISCOVERY IN CYSTIC FIBROSIS. 1st Course on High Content Screening and Image Analysis for Biosciences. June 1st-4th. Porto, Portugal.
5. Cristóvão, J.S., Leal, S.S., Morris, V., Kierdorf, K., [Botelho, H.M.](#), Cardoso, I. Reif, B., Fritz, G., Gomes, C.M.* (2015) S100 PROTEINS AS NOVEL METAL-ION REGULATED MOLECULAR CHAPERONES IN NEURODEGENERATION. EMBO Conference: Molecular chaperones: From molecules to cells and misfolding diseases. May 8th-13th. Heraklion, Grece.
6. [Botelho, H.M.*](#), Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2014) A HIGH CONTENT SCREENING SYSTEM FOR THE DEVELOPMENT OF CFTR TARGETING THERAPIES IN THE GENETIC DISEASE CYSTIC FIBROSIS. International ITU Molecular Biology and Genetics Students Congress '14. August 15th-18th. Istanbul, Turkey.
7. [Botelho, H.M.](#), Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D.* (2014) A HIGH-CONTENT SIRNA SCREENS IDENTIFY NOVEL CFTR TRAFFIC REGULATORS IN HUMAN AIRWAY EPITHELIAL CELLS. 2014 ECFS Basic Science Conference. March 26th-29th. St. Julians, Malta.
8. [Botelho, H.M.*](#), Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) HIGH THROUGHPUT SCREEN REVEALS GENES REGULATING WT-CFTR AND RESCUING F508DEL-CFTR TRAFFIC. 27th Annual North American Cystic Fibrosis Conference. October 17th-19th. Salt Lake City, UT, United States.

9. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) HIGH THROUGHPUT SCREENING AS A SOURCE FOR NOVEL CYSTIC FIBROSIS THERAPEUTIC TARGETS. 36th European Cystic Fibrosis Society Conference. June 12th-15th. Lisbon, Portugal.
10. Dahimène, S., Romão, A.* , Botelho, H.M., Palma, M., Correia, A.R., Farinha, C.M., King-Underwood, J., Williams, J., Hirst, S., Gomes, C.M., Amaral, M.D. (2013) SCREENING FOR NOVEL F508DEL-CFTR CORRECTORS IDENTIFIED BY PHARMACOPHORE MODELLING THROUGH AUTOMATED MICROSCOPY AND NBD1 FOLDING ASSAYS. 36th European Cystic Fibrosis Society Conference. June 12th-15th. Lisbon, Portugal.
11. Carvalho, S.B., Leal, S.S., Botelho, H.M., Fritz, G. Gomes, C.M.* , (2013) CROSS TALK BETWEEN S100 PROTEINS AND AMYLOID-FORMING PROTEINS IN NEURODEGENERATION. EMBO Conference: The biology of molecular chaperones: From molecules, organelles and cells to misfolding diseases. May 17th-22nd, Santa Margherita di Pula, Italy.
12. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) HIGH-THROUGHPUT IDENTIFICATION OF CFTR TRAFFIC REGULATORS. BioFIG PhD Student/Post-Doc Seminar. March 7th, Lisbon.
13. Botelho, H.M.*, Yanamandra, K., Fritz, G., Morozova-Roche, L.A., Gomes, C.M., (2011) A β FIBRILS AND METAL IONS MODULATE S100 AMYLOIDOGENESIS: NOVEL PLAYERS IN NEURODEGENERATION? Lisbon Area Neuroscience Meeting. January 19th. Lisbon.
14. Botelho, H.M.*, Yanamandra, K., Fritz, G., Morozova-Roche, L.A., Gomes, C.M. (2010) METAL IONS AND A β FIBRILS MODULATE S100 AMYLOIDOGENESIS. IV Spanish Portuguese Biophysical Congress. July 7th-10th. Zaragoza, Spain.
15. Botelho, H.M.* (2009) METAL IONS AS MODULATORS OF FOLDING AND AMYLOIDOGENIC PATHWAYS IN THE S100 PROTEIN FAMILY. ITQB PhD Seminar. November 4th. Oeiras.
16. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2007) MODULATION OF THE STABILITY OF S100A2 VARIANTS BY METAL IONS. Workshop Proteins in Health and Disease: from structure to function. FFUL. February 2nd-3rd. Lisbon.
17. Francese, S.* , Prosinecki, V., Botelho, H.M., Mastrobuoni, G., Pieraccini, G., Kletzin, A., Gomes, C.M. (2006) PROTEOMIC CHARACTERIZATION OF HYPERSTABLE PROTEINS WITHIN THE SOLUBLE PROTEOME OF *Sulfurisphaera* sp. 17th International Mass spectrometry Conference. August 27th - September 1st. Prague, Czech Republic.

* Presenting author

POSTER PRESENTATIONS

1. Botelho, H.M.*, Lim, S.H., Tischer, C., Pepperkok, R., Stagljär, I., Amaral, M.D. (2017) A HIGH CONTENT siRNA SCREEN AT NEAR GENOMIC SCALE REVEALS NOVEL F508del-CFTR THERAPEUTIC TARGETS. 14th ECFS Basic Science Conference. March 29th-April 1st. Albufeira, Portugal. *Submitted*
2. Baptista, C.* , Vieira, H., Tenreiro, R., Awatade, N.T., Amaral, M.D., Botelho, H.M. (2017) HIGH THROUGHPUT MICROSCOPY SCREENS IDENTIFY F508DEL-CFTR CORRECTORS AND ANO1 TRAFFIC MODULATORS IN A UNIQUE PORTUGUESE NATURAL COMPOUND LIBRARY. 14th ECFS Basic Science Conference. March 29th-April 1st. Albufeira, Portugal. *Submitted*
3. Felício, V.* , Botelho, H.M., Igreja S., Amaral, M.D. (2017) A HIGH-THROUGHPUT SCREENING ASSAY TO IDENTIFY FACTORS CORRECTING CFTR MUTATIONS BEARING PREMATURE TERMINATION CODONS (PTCS). 14th ECFS Basic Science Conference. March 29th-April 1st. Albufeira, Portugal. *Submitted*
4. Quaresma, M.C.* , Botelho, H.M., Amaral, M.D. (2017) CFTR IN THE MAINTENANCE OF EPITHELIAL DIFFERENTIATION IN THE AIRWAYS. Chem&BioChem Postgraduate Students Meeting. Faculdade de Ciências da Universidade de Lisboa. February 9th. Lisboa, Portugal.
5. Igreja S.* , Botelho H.M., Amaral M.D. (2016) IDENTIFICATION OF NOVEL REGULATORS OF ALTERNATIVE SPLICING BY HT MICROSCOPY: IMPLICATIONS FOR CYSTIC FIBROSIS AND OTHER HUMAN DISEASES. EMBO Practical Course: High-Throughput Microscopy for Systems Biology. October 16-23. Heidelberg, Germany.

6. Awatade, N.T.* , Botelho, H.M., Felício, V., Clarke, L.A., Ramos, M., Amaral, M.D. (2016) TO ASSESS THE EFFICACY OF CFTR MODULATORS ON RARE CYSTIC FIBROSIS MUTATIONS USING FORSKOLIN-INDUCED SWELLING ASSAY IN HUMAN INTESTINAL ORGANIDS. 13th ECFS Basic Science Conference. March 30th-April 2nd, Pisa, Italy.
7. Lérias, J.R.* , Afonso, S., Quaresma, M.C., Pinto, M., Awatade, N.T., Botelho, H.M., Schreiber, R., Clarke, L.A., Kunzelmann, K., Amaral, M.D. (2016) ANOCTAMIN 1 - A MEMBER OF A NOVEL FAMILY OF ION CHANNELS WITH EXTENDED FUNCTIONS AND SIGNIFICANCE IN DISEASE. 13th ECFS Basic Science Conference. March 30th-April 2nd, Pisa, Italy.
8. Pankonien, I. * , Santos-Sousa, L., Botelho, H.M., Amaral, M.D. (2016) ESTABLISHMENT OF CELL-BASED ASSAYS OF AIRWAY EPITHELIAL DIFFERENTIATION AND WOUND HEALING FOR AUTOMATED MICROSCOPY. 13th ECFS Basic Science Conference. March 30th-April 2nd, Pisa, Italy.
9. Awatade, N.T.* , Botelho, H.M., Felício, V., Clarke, L.A., Ramos, M., Amaral, M.D. (2015) ASSESSMENT OF CFTR ACTIVITY *EX VIVO* AS A BASIS FOR PERSONALISED MEDICINE. 5th Workshop Structure and Function of Ion Channels and Transporters. November 12th-14th, Lisbon, Portugal.
10. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Awatade, N.T., Proença, M.C., Neumann, B., Tischer, C., Sirianant, L., Kunzelmann, K., Pepperkok, R., Amaral, M.D. (2015) RESCUING F508DEL-CFTR IN AIRWAY EPITHELIAL CELLS USING A NOVEL TRAFFIC-BASED HIGH CONTENT MICROSCOPY SCREENING PLATFORM. 12th ECFS Basic Science Conference. March 25th-28th. Albufeira, Portugal.
11. Igreja, S.* , Botelho, H.M., Marques, L., Amaral, M.D. (2015) IN VITRO CORRECTION OF THE CFTR 2657+5G>A SPLICING MUTATION BY AN ANTISENSE OLIGONUCLEOTIDE. 12th ECFS Basic Science Conference. March 25th-28th. Albufeira, Portugal.
12. Pankonien, I.* , Afonso, S., Quaresma, M.C., Kmit, A., Dahimène, S., Botelho, H.M., Cachaço, A.S., Kunzelmann, K., Amaral, M.D. (2015) THE EPITHELIAL TRANSCRIPTION FACTOR KLF4 AFFECTS THE TRAFFIC OF CFTR. 12th ECFS Basic Science Conference. March 25th-28th. Albufeira, Portugal.
13. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2014) A HIGH CONTENT SCREENING APPROACH FOR THE IDENTIFICATION OF CFTR TRAFFIC REGULATORS IN AIRWAY EPITHELIAL CELLS. ESF/EMBO Cell Polarity and Membrane Trafficking. May 10th-15th. Pułtusk, Poland.
14. Carvalho, S.B.* , Botelho, H.M., Leal, S.S., Cardoso, I., Fritz, G., Gomes, C.M. (2013) INTRINSICALLY DISORDERED AND AGGREGATION PRONE REGIONS UNDERLIE β -AGGREGATION IN S100 PROTEINS. 2nd Iberian Congress on Prions. December 2nd-3rd. Faro, Portugal.
15. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) HIGH THROUGHPUT SCREEN REVEALS GENES REGULATING WT-CFTR AND RESCUING F508DEL-CFTR TRAFFIC. 27th Annual North American Cystic Fibrosis Conference. October 17th-19th. Salt Lake City, UT, United States.
16. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) IDENTIFICATION OF CFTR TRAFFIC REGULATORS AS A SOURCE OF NOVEL CYSTIC FIBROSIS THERAPEUTIC TARGETS. The 5th EMBO Meeting. September 21st-24th. Amsterdam, Netherlands.
17. Botelho, H.M.*, Dahimène, S., Uliyakina, I., Neumann, B., Tischer, C., Pepperkok, R., Amaral, M.D. (2013) IDENTIFICATION OF CFTR TRAFFIC REGULATORS AS A SOURCE OF NOVEL CYSTIC FIBROSIS THERAPEUTIC TARGETS. Molecular Biology in Portugal and EMBL. July 18th. Lisbon, Portugal.
18. Bandejas, T.M.* , Freitas, M.C., Petrasch, D., Botelho, H.M., Gomes, C.M., Kletzin, A., Frazão, C. (2012) PURIFICATION, CRYSTALLIZATION AND PRELIMINARY CRYSTALLOGRAPHIC ANALYSIS OF ACIDIANUS AMBIVALENS RIESKE FERREDOXIN 2 (RFD2), A NEW TYPE OF RIESKE FERREDOXINS WITH AN ADDITIONAL DISULFIDE. 1^o Encontro Nacional de Utilizadores de Radiação de Sincrotrão. January 16th. Caparica, Portugal.
19. Botelho, H.M.*, Betz, C., Kierdorf, K., Prinz, M., Gomes, C.M., Fritz, G. (2011) A NEW EMERGING ROLE OF S100B IN AMYLOID PLAQUE FORMATION. 56th Annual Meeting, German Society for Neuropathology and Neuroanatomy. September 21st-24th. Tübingen, Germany.
20. Bandejas, T.M.* , Freitas, M.C., Botelho, H.M., Gomes, C.M., Carrondo, M.A., Kletzin, A., Frazão, C. (2011) CRYSTALLOGRAPHIC STRUCTURE OF ACIDIANUS AMBIVALENS RIESKE FERREDOXIN 2 – THE DISULFIDE BRIDGE STRUCTURAL ROLE. EMBO Practical Course: High-throughput methods for Protein Production and Crystallization. July 4th-13th. Marseille, France.

21. Botelho, H.M.*, Yanamandra, K., Fritz, G., Morozova-Roche, L.A., Gomes, C.M. (2011) S100 PROTEINS: MODULATORS OF A β AMYLOIDOGENESIS. Interbio Symposium 'Frontiers in Protein Research'. May 5th-7th. Oeiras.
22. Gomes, C.M.* , Botelho, H.M., Yanamandra, K., Fritz, G., Morozova-Roche, L.A. (2010) METAL IONS AND AMYLOID-BETA PEPTIDE FIBRILS AS MODULATORS OF S100 AMYLOIDOGENESIS. FASEB Summer Research Conference - Protein Folding in the Cell. July 25th-30th. Saxtons River, VT, United States.
23. Botelho, H.M.*, Yanamandra, K., Fritz, G., Morozova-Roche, L.A., Gomes, C.M. (2010) METAL IONS AND A β FIBRILS MODULATE S100 AMYLOIDOGENESIS. IV Spanish-Portuguese Biophysics Congress. July 7th-10th. Zaragoza, Spain.
24. Almeida, M.C.* , Magalhães, L.C., Sabino, F.M.R., Botelho, H.M., Gomes, C.M., Matzapetakis, M. (2010) FOCUSED NMR STRUCTURAL PROTEOMICS ON HYPERSTABLE PROTEOME SUBSETS. EUROMAR 2010, July 4th-9th. Florence, Italy.
25. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2010) METAL IONS AS MODULATORS OF FOLDING AND STABILITY OF THE S100A2 TUMOR SUPPRESSOR. Gordon Research Seminar & Gordon Research Conference "Protein Folding Dynamics". January 9th-15th. Ventura, CA, United States.
26. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2009) CALCIUM AND ZINC MODULATE THE FOLDING AND STABILITY OF THE S100A2 TUMOR SUPPRESSOR. VIII European Symposium of The Protein Society. June 14th-18th. Zurich, Switzerland.
27. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2008) Ca²⁺ AND Zn²⁺ MODULATE THE CONFORMATION AND STABILITY OF THE S100A2 TUMOR SUPPRESSOR. The 9th European Biological Inorganic Chemistry Conference, EUROBI9. September 2nd-6th. Wrocław, Poland.
28. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2008) ROLE OF Ca²⁺ AND Zn²⁺ AS MODULATORS OF THE S100A2 TUMOR SUPPRESSOR. FASEB Summer Research Conference – Protein Folding in the Cell. June 27th – August 1st. Saxtons River, VT, United States.
29. Nascimento, C.* , Botelho, H.M., Tavares de Almeida, I, Gomes, C.M., Leandro, P. (2007) FOLDING RESCUE OF MILD PKU MUTATIONS BY CHEMICAL CHAPERONES. Society for the Study of Inborn Errors of Metabolism Symposium 2007, SSIEM Symposium 2007. September 4th-7th. Hamburg, Germany.
30. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2007) CONFORMATIONAL CONTROL OF S100A2 BY METAL IONS. 13th International conference on Biological Inorganic Chemistry, ICBIC XIII. June 15th-20th. Vienna, Austria.
31. Botelho, H.M.*, Koch, M., Fritz, G., Gomes, C.M. (2007) STUDIES ON THE CONFORMATIONAL EFFECTS OF CALCIUM AND ZINC BINDING TO S100A2. VII European Symposium of the Protein Society – From Proteins to Proteome. May 12th-16th. Stockholm, Sweden.
32. Prosiński, V.* , Botelho, H.M., Gomes C.M. (2007) A PROTEOMIC APPROACH TO INVESTIGATE PROTEIN STABILITY. VII European Symposium of the Protein Society – From Proteins to Proteome. May 12th-16th. Stockholm, Sweden.
33. Prosiński, V.* , Botelho, H.M., Francese, S., Mastrobuoni, G., Moneti, G., Urich, T., Kletzin, A., Gomes, C.M. (2006) MINING FOR PROTEINS WITH ENHANCED INTRINSIC THERMAL STABILITY: A PROTEOMIC RESEARCH ON HYPERTHERMOPHILE *Sulfurisphaera sp.* International Conference on Proteomics, PROTEOMLUX. October 11th-14th. Luxembourg, Luxembourg.
34. Prosiński, V.* , Botelho, H.M., Francese, S., Kletzin, A., Gomes, C.M. (2006) FERREDOXIN AND OXIDATIVE STRESS DEFENCE PROTEINS ARE AMONG THE MOST STABLE PROTEINS IN THE THERMOPHILE *Sulfurisphaera sp.*: A PROTEOMIC STUDY. EUROBI9 Young Researchers Forum and The 8th European Biological Chemistry Conference, EUROBI8. July 1st-6th. Aveiro.

* Presenting author

PARTICIPATION IN SCIENTIFIC MEETINGS

1. Ciência 2016 - Science and Technology in Portugal Meeting. (2016) July 4th-6th. Lisboa
2. 2nd Course on High Content Screening and Image Analysis for Biosciences. (2016) June 14th-17th. Porto.*
3. 1st Course on High Content Screening and Image Analysis for Biosciences. (2015) June 1st-4th. Porto.*

4. 12th ECFS Basic Science Conference. (2015) March 25th-28th, Albufeira, Portugal.*
5. International ITU Molecular Biology and Genetics Students Congress '14. (2014) August 15th-18th. Istanbul, Turkey.*
6. ESF/EMBO Cell Polarity and Membrane Trafficking. (2014) May 10th-15th. Pułtusk, Poland.*
7. 27th Annual North American Cystic Fibrosis Conference. (2013) October 17th-19th. Salt Lake City, UT, United States.*
8. The 5th EMBO Meeting. (2013) September 21st-24th. Amsterdam, Netherlands.*
9. Molecular Biology in Portugal and EMBL. (2013) July 18th. Lisbon, Portugal.*
10. 36th European Cystic Fibrosis Society Conference. (2013) June 12th-15th. Lisbon, Portugal.*
11. 2nd ITQB PhD Students' Meeting. (2011) October 26th-28th. Oeiras.
12. 56th Annual Meeting, German Society for Neuropathology and Neuroanatomy. (2011) September 21st-24th. Tübingen, Germany.*
13. Interbio Symposium 'Frontiers in Protein Research'. (2011) May 5th-7th. Oeiras.*
14. 1st ITQB PhD Students' Meeting. (2010) October 21st-22nd. Oeiras.
15. IV Spanish-Portuguese Biophysical Congress. (2010) July 7th-10th. Zaragoza, Spain.*
16. Gordon Research Conference "Protein Folding Dynamics". (2010) January 10th-15th. Ventura, CA, United States.*
17. Gordon Research Seminar "Protein Folding Dynamics". (2010) January 9th-10th. Ventura, CA, United States.*
18. International Workshop "Protein Folding Diseases: From Metabolic Disorders to Neurodegeneration". (2009) March 19th. Oeiras.
19. VIII European Symposium of The Protein Society. (2009) June 14th-18th. Zurich, Switzerland.*
20. Workshop Physics of Biological Systems: From Genes to Societies. (2008) October 2nd-3rd. CFTC/UL, Lisbon.
21. The 9th European Biological Inorganic Chemistry Conference, EUROBIC9. (2008) September 2nd-6th. Wrocław, Poland.*
22. FASEB Summer Research Conference – Protein Folding in the Cell. (2008) July 27th - August 1st. Saxtons River, VT, United States.*
23. 1st Symposium iMed.UL. (2008) March 7th. Lisbon.*
24. 13th International conference on Biological Inorganic Chemistry, ICBIC XIII. (2007) July 15th-20th. Vienna. Austria.*
25. VII European Symposium of the Protein Society – From Proteins to Proteome. (2007) May 12th-16th. Stockholm, Sweden.*
26. Workshop Proteins in Health and Disease: from Structure to Function. (2007) February 2nd-3rd. FFUL, Lisbon.
27. A one day workshop on protein science. (2006) November 8th. CFTC/UL, Lisbon.
28. EUROBIC8 – 8th European Biological Inorganic Chemistry Conference and Young Researchers Forum. (2006) July 1st-6th. Aveiro.

* Presenting author

SCIENTIFIC SOCIETIES

2006 - present	Portuguese Biochemical Society
2006 - present	Portuguese Biophysical Society

PRIZES AND AWARDS

2015	Meeting fellowship. 12 th ECFS Basic Science Conference.
2013	EMBO best poster award “Molecular Biology in Portugal and EMBL” and registration voucher to The 5 th EMBO Meeting.
2010	Travel Grant, Portuguese Biochemical Society.
2010	Travel Grant, Portuguese Biophysical Society.
2010	Subsidy for participating in International Congresses, Fundação Calouste Gulbenkian.
2007	Student Travel Grant, ICBIC XIII.
2007	Banco Espírito Santo Award – Best Classified Graduates in 2005/2006.
2004	Fundação da Faculdade de Ciências da Universidade de Lisboa Award – Best Classified 1 st year Graduation Students in 2002/2003.

LANGUAGE SKILLS

Portuguese	Native speaker.
English	Excellent speaking, reading and writing.
French	Basic speaking, reading and writing.
Spanish	Basic speaking, reading and writing.

OTHER ACTIVITIES

2016-present	Member of NEUBIAS: Network of European BioImage Analysts, COST Action CA15124
2016	Collaborated in the organization of “Hands-on Workshop on High-Throughput Microscopy”. July 11 th -15 th . BioISI/FCUL. Lisbon, Portugal.
2015	Collaborated in the organization of “Hands-on Workshop on High-Throughput Microscopy”. March 18 th -20 th . BioISI/FCUL. Lisbon, Portugal.
2014 - present	Collaborates in the management of microscopy resources. BioISI & Functional Genomics and Proteostasis Group (group leader: Margarida D. Amaral). BioISI/FCUL. Lisbon, Portugal.
2013	Volunteer to the 36 th European Cystic Fibrosis Society Conference. June 12 th -15 th . Lisboa Congress Centre. Lisbon.
2005	Member of the Organizing Committee of the II National Meeting of Biochemistry Students. April 23 rd -25 th . FCUL. Lisbon.
2003	Participation in the I National Meeting of Biochemistry Students. April, 25 th -27 th . Coimbra University. Coimbra.
2001	Ciência Viva Program for the Scientific Occupation of Youngsters in the Vacations. “Caracterização molecular de animais marinhos arrojados nas costas de S. Miguel”. University of the Azores. Supervisor: Manuel João Costa. July. Ponta Delgada.
2001	Participation in the 5 th Ciência Viva Forum. “Qualidade da Água – Um Património Universal”. Escola Secundária Antero de Quental. May. Lisbon.
2000	Ciência Viva Program for the Scientific Occupation of Youngsters in the Vacations. “Da diversidade biológica à diversidade biomolecular: um trabalho na área laboratorial”. University of the Azores. Supervisor: Manuel João Costa. July. Ponta Delgada.