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OVERVIEW

I am a mother of 4 sons; in parallel, I have pursued full-time University scientific and teaching careers.

I am a Full Professor of Molecular Biology at the University of Lisboa (Dept. Chemistry & Biochemistry) and former Director of BioISI- Biosystems & Integrative Sciences Institute and Director of FCT-funded PhD programme BioSys - Biological Systems: Functional and Integrative Genomics (PD/65/2012).

Research in my lab focusses on the molecular and cellular mechanisms of the genetic disease Cystic Fibrosis (CF) and on translating this knowledge into the benefit of patients. To understand CF mechanisms globally we use transcriptomics, proteomics, and functional genomics (functional siRNA screens). Our results translate into the clinic for better CF diagnosis, prognosis, and personalized therapies.

I have authored 194 peer-reviewed papers and 7 book chapters (70% of publications in top citation percentiles). I edited 3 books and 2 special journal issues. My publications have been cited 7,380 (Scopus) and 11,041 (Google Scholar) times. H-index: 46 (Scopus); 56 (Google Scholar). Scopus ID: 7006683774 |ORCID ID: 0000-0002-0828-8630. I am a Highly Cited Researcher since 2020 (Mendeley, University of Stanford) and #2 in Portugal for Cell Biology (Research.com).

I am a member of EMBO-European Molecular Biology Organization and the EMBO Scientific Delegate for Portugal. I am also a member of the Portuguese Academy of Sciences. I received multiple awards, among which the Pfizer Award for Basic Biomedical Research, the Annual Award of European Cystic Fibrosis Society.

I have directly supervised/co-supervised 23 successfully completed PhD students (+6 ongoing); 20 post-doctoral fellows; more than 25 junior students (BSc+MSc); and I mentor 4 ongoing junior PIs.

I participated in 44 grants (+5 ongoing), 40 of which as (Co-)Principal Investigator, amounting to ~7M€. Nine of these were large multi-centre EU grants, of which I coordinated one (TargetScreen2) and Co-coordinated of another (EuroCareCF).

Teaching duties since 11 April 1983 in the Department of Chemistry and Biochemistry at the Faculty of Sciences, University of Lisboa, consisted of 6-9 hours per week on average.

Other activities include: Scientific Advisory Board (SAB) member of "Emily Entourage" Foundation; SAB member of Fair Therapeutics Foundation; member of ECFS Nasal Cells Working Group. Formerly, I was member of the Board of ECFS-European Cystic Fibrosis Society), and of SAB of CF Trust (UK) and Mukoviszidose e.V (German CF Foundation), Associate Editor of Journal Cystic Fibrosis (Elsevier), and editor of Scientific Reports (Nature group) and Coordinator of the ECFS Basic Science Working Group.

I have registered 4 patents and I regularly develop business consulting activities with industry (BioMarin; Vertex; Facilitate; Gilead; LEK; Reuters; Novartis, Proteostasis, TranslateBio, AlgiPharma, etc).

I gave 247 invited international talks (+74 national), including the opening plenary of North-American CF Conference (2007) and 4 opening plenaries at ECFS Conferences (2004, 2008, 2013, 2016), 1 Gordon Conference and 6 EMBO Courses/workshops. I organized for 10 years the ECFS-Basic Science Conferences and 8 international training workshops for young researchers in the CF field. In total, I organized 26 international conferences, being President of the 2013 ECFS-European CF Society Conference.

1. ACADEMIC/SCIENTIFIC BACKGROUND

Jul 2006 — "Habilitation" ("Agregação") to the title of "**Professor Agregado"**, Area of **Biochemistry**, Univ Lisboa, Portugal. Unanimously Approved. Course proposal: "*Human Molecular Biology from a Systems Biology Perspective*".

1993 — PhD in **Biochemistry/Molecular Genetics**, Univ Lisboa, Portugal & Gulbenkian Institute of Science (Oeiras, Portugal). Supervisor: Prof Claudina Rodrigues-Pousada. Final mark: *summa cum laude*. Thesis: "*Stress Proteins: Induction and Regulation in Tetrahymena pyriformis*".

1986 — MSc (equiv) in **Biochemistry**, Univ Lisboa, Portugal & Gulbenkian Institute of Science (Oeiras, Portugal). Supervisor: Prof Claudina Rodrigues-Pousada. Final mark: *summa cum laude*. Thesis: "*The Response of the Protozoan Tetrahymena pyriformis to a Stress Agent: Sodium Meta-Arsenite*".

1982 — BSc in **Chemistry/Biochemistry**, Univ Lisboa Portugal. Work carried out as undergraduate research student at the Faculty of Medical Sciences, New University of Lisboa, Portugal. Final mark: 17/20. Thesis: "*Lipid Content of Liver and Blood Plasma of Hepatomized Rats*".

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2. POSITIONS/TRAINING

2023- — Group Leader of **CF Research Lab** of BioISI.

Jul 2013- — **Full Professor of Biochemistry/ Molecular Biology**. Dept of Chemistry & Biochemistry, Faculty of Sciences, University of Lisboa.

2015-22 — **Director of BioISI- Biosystems & Integrative Sciences Institute** (evaluated in 2015: 24/25)

2006/2013 — **Assistant Professor with "Habilitation"** (Biochemistry/ Molecular Biology), Dept of Chemistry & Biochemistry, Faculty of Sciences, University of Lisboa.

1993/2006 — **Assistant Professor**, Faculty Sciences, Univ Lisboa, Portugal (tenure: 1998).

Invited Researcher at the Centre Human Genetics, National Institute of Health

1986/1993 **Teaching Assistant**, Dept. Chemistry & Biochemistry, Faculty of Sciences, University of Lisboa.
PhD student at IGC - Gulbenkian Institute of Science, Oeiras, Portugal.

1983/1986 **Trainee Teaching Assistant**, Dept. Chem & Biochemistry, Faculty of Sciences, University of Lisboa.
Graduate student at IGC - Gulbenkian Institute of Science, Oeiras, Portugal.

Other Positions

2024/25 **Visting Professor** (6 weeks/yr) at the University of Shanghai, China (ULisboa SHU School).

2023/24 **Visting Professor** (6 weeks/yr) at the University of Shanghai, China (ULisboa SHU School).

2016 **Visiting researcher at EMBL-**European Molecular Biology Laboratory (Heidelberg, Germany) at the Pepperkok group.

2015 **Founding member of Research Centre BioISI** – Biosystems & Integrative Sciences Institute, Faculty of Sciences, University of Lisboa (Portugal) and head of Cystic Fibrosis Research lab.

2014- **Member of the Portuguese Academy of Sciences** (Section of Sciences).

Nov 2012/15 **Visiting Researcher at Faculty of Medical Sciences of UniCamp**-University of Campinas (SP, Brazil) – CAPES programme "Science without Borders".

2012/2015 **Director of the Research Centre BioFiG**-Centre for Biodiversity, Functional and Integrative Genomics.

2010/2011 **Vice-President** of Department of Chemistry and Biochemistry, Faculty of Sciences, University of Lisboa.

2008-2010 **Visiting researcher at EMBL-**European Molecular Biology Laboratory (Heidelberg, Germany) at the Pepperkok group to coordinate EU project TargetScreen2.

2007 **Founding member of Research Centre BioFiG**- Centre for Biodiversity, Functional and Integrative Genomics, University of Lisboa (Portugal) and head of Membrane Protein Disorders Unit.

2006/2011 **Coordinator of the Cystic Fibrosis Research Unit**, Centre of Human Genetics of the National Institute of Health Ricardo Jorge, Lisboa (Portugal)

2000 **Visiting researcher (sabbatical leave)** at Northwestern University (IL, USA).

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3. PRIZES AND HONOURS

Prizes

2023 Most productive scientist of the Faculty of Sciences University of Lisboa in the scientific area of Chemistry & Biochemistry.

2022 Most productive scientist of the University of Lisboa in the scientific area of Biology, Bioengineering, Biochemistry & Biotechnology, ULisboa-CGD Award.

2019 John Riordan & Paul Quinton Award for CF Research, given by Bob Emmelkamp Association of parents and friends of people with Cystic Fibrosis (USA).

2019 Thomé Villar / Boehringer Ingelheim 2019 Award, from Portuguese Pneumology Society.

2016 Second most productive scientist in the scientific area of Biology, Bioengineering, Biochemistry & Biotechnology of the University of Lisboa, ULisboa-CGD Award.

2013 Pfizer Award for Basic Biomedical Research.

2010 Annual Award of European Cystic Fibrosis Society (jointly with DN Sheppard, Bristol, UK).

Honours

2024	Co-Editor of "Hodson & Geddes' Cystic Fibrosis", CRC Press, Taylor & Francis Group. Chief editor: A Bush.
2022-	Scientific Advisory Board (SAB) member of "Emily Entourage" Foundation (USA).
2022-	SAB member of Fair Therapeutics Foundation (The Netherlands).
2017	Editor of Scientific Reports (Nature Group)
2014	Elected EMBO member.
2014	Elected member of the Portuguese Academy of Sciences.
2012/19	Member of the Board ECFS - European Society of Cystic Fibrosis.
2011	Editor (with K Kunzelmann) of "*Cystic Fibrosis Protocols and Diagnosis*", Humana Press. Series: Methods in Molecular Biology Series; 2 Vols: 741 & 742.
2011	Member of the Science Award Committee of Fundação Pulido Valente.
2010-2011	Member of the Research Advisory Board of Mukoviszidose Institut-the Cystic Fibrosis Patients Association (Germany).
2008-2017	Associate Editor of Journal of Cystic Fibrosis (Elsevier).
2007-2010	Member of the Award Committee of EMBO/FEBS Women in Science.
2006-2009	Member of Research Advisory Board of the Cystic Fibrosis Trust (UK).
2004	Chief-editor of a special supplement of *Journal of Cystic Fibrosis*.

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4. RESEARCH INTERESTS

My lab studies human disease mechanisms associated with membrane proteins, namely those related to the genetic disease Cystic Fibrosis (CF). Thus, the major focus is on the molecular and cellular mechanisms of biogenesis, traffic, and degradation of normal and mutant protein CFTR (CF transmembrane Conductance Regulator), which when mutated causes CF. Other studies include the epithelial Na^+ channel ENaC and anoctamins to identify novel genes and small-molecules that regulate these membrane proteins. Most of our research aims to understand the molecular mechanisms that prevent mutant CFTR with F508del (the most frequent mutation found in CF patients) from reaching the cell surface. By understanding these mechanisms that retain F508del-CFTR at the endoplasmic reticulum (ER), we aim to design therapeutic strategies to restore its normal activity as a Cl^- channel at the cell surface, with substantial benefit for CF patients. We thus carry out drug development programmes to identify novel CFTR modulators.

To understand CF pathophysiology mechanisms in a global way, we use systems approaches based on transcriptomics, proteomics, and functional genomics (functional siRNA screens). In collaboration with nanoelectronics centres, we developed novel chips for CF diagnosis.

Our research is also focussed on the characterization of other CFTR gene mutations, namely those: 1) affecting processing of mRNA (splicing and nonsense-mediated decay); 2) with intracellular trafficking defects.

We confirm all basic cellular mechanisms in **native tissues** (collected from CF patients) with the final goal of translating knowledge and results from the basic science into the clinical practice, for better CF diagnosis, prognosis, and personalized therapies.

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5. PUBLICATIONS

Articles in International Peer-Reviewed Journals

*[*corresponding author]*

1. Railean V*, Rodrigues CS*, Pankonien I, Ramalho SS, Silva IAL, Doušová T, Castanhinha S, Azevedo P, Roda J, Farinha CM[&], Amaral MD[&] (2025) Personalized Medicine in Cystic Fibrosis: Characterization of Eight Rare CFTR Variants in Intestinal Organoids and Cellular Models. *Mol Diagn Ther*. Accepted for publication. [*,[&] Equal contributions]. IF 4.4
2. Amaral MD & Pankonien (2025) Cystic Fibrosis as a Paradigmatic Disease in Bringing Science to the Bedside. *FEBS Lett*. Epub Jun 26. [PMID: 40571992]. DOI: 10.1002/1873-3468.70101. IF 3.5

3. Pacheco J, Almeida L, Boaventura R, Pereira AL, Rodrigues CS, Railean V, Silva IAL, Pankonien I, Amaral MD, Amorim A (2025) N1303K (p.Asn1303Lys) Variant: Expanding Frontiers in the Treatment of cystic fibrosis. *Resp Med* **246**: 108238. [PMID: 40645349]. DOI: 10.1016/j.rmed.2025.108238. IF 3.1
4. Botelho HM, Lopes-Pacheco M, Pinto MC, Railean V, Pankonien I, Caleiro MC, Clarke LA, Cachatra V, Neumann B, Tischer C, Moiteiro C, Ousingsawat J, Kunzelmann K, Pepperkok R, **Amaral MD*** (2025) Global Functional Genomics Reveals GRK5 as a Cystic Fibrosis Therapeutic Target Synergistic with Current Modulators. *iScience* **28**: 111942. [PMID: 40040803] DOI: 10.1016/j.isci.2025.111942. IF 4.6
5. Pereira C, **Amaral MD**, Falcao AO* (2025) CyFidb: a Molecular Atlas for Cystic Fibrosis. *J Cyst Fibros*. In Press. DOI: 10.1016/j.jcf.2025.03.011. IF 5.53
6. Rodrigues CS[#], Railean V[#], Ramalho SS, Farinha CM, Pankonien I, **Amaral MD*** (2025) Personalized Therapy with CFTR Modulators: Response of p.Ile148Asn Variant. *J Cyst Fibros* **24**: 542-547. [[#]Equal contributions]. [PMID: 39919950] DOI: 10.1016/j.jcf.2025.01.015. IF 5.53
7. **Amaral MD***, Pankonien I (2025) Theranostics vs Theratyping or Theranostics Plus Theratyping? *J Cyst Fibros* **24**: 10-15. [PMID: 39327193]. DOI: 10.1016/j.jcf.2024.09.013. IF 5.53
8. Azevedo MF, Zeitune DC, Farias RL, Junior ENC, Bacalhau M, **Amaral MD**, Lopes-Pacheco M, Buarque C* (2025) Direct access of 4-acyl-1,2,3-triazoles from acetophenones: A synthetic shortcut for novel p.Phe508del-CFTR traffic correctors. *J Mol Struct*. ePub. DOI: 10.1016/j.molstruc.2024.139897. IF 4.00
9. Suzano PMS, González-Durruthy M, Ferreira RJ, Bonito CA, **Amaral MD**, dos Santos DJVA* (2024) A Refined Model of the CFTR Membrane Transporter as a Tool to Revert Misbehavior. *Chem Proc* **16**: 109. DOI: 10.3390/ecsoc-28-20247
10. Schneider-Futschik EK, Zhu Y, Li D, Habgood MD, Nguyen BN, Pankonien I, **Amaral M**, Downie LE, Chinnery HR (2024) The role of CFTR in the eye, and the effect of early highly effective modulator treatment for cystic fibrosis on eye health. *Prog Retin Eye Res* **103**: 101299. [PMID: 39245300] DOI: 10.1016/j.preteyeres.2024.101299. IF 19.70
11. Bierlaagh MC, Ramalho AS, Silva IAL, Vonk AM, van den Bor RM, Mourik P, Pott J, Suen SWF, Boj SF, Vries RGJ, Lammertyn E, Vermeulen F, **Amaral MD**, de Boeck K, van der Ent CK, Beekman JM* (2024) Repeatability and reproducibility of the forskolin-induced swelling (FIS) assay on intestinal organoids from people with Cystic Fibrosis. *J Cyst Fibros* **23**: 693-702. [PMID: 38749892]. DOI: 10.1016/j.jcf.2024.04.014. IF 5.53.
12. Ferreira FC, **Amaral MD**, Bacalhau M, Lopes-Pacheco M* (2024) PTI-801 (posenacaftor) shares a common mechanism with VX-445 (elexacaftor) to rescue p.Phe508del-CFTR. *Eur J Pharmacol* **967**: 176390. [PMID: 38336013]. DOI: 10.1016/j.ejphar.2024.176390. IF 5.00.
13. Railean V, Rodrigues CS, Ramalho SS, Silva IAL, Bartosch J, Farinha CM, Pankonien I*, **Amaral MD*** (2023) Personalized Medicine: Function of CFTR Variant p.Arg334Trp is Rescued by Currently Available CFTR Modulators. *Front Mol Biosci* **10**: 1155705 [PMID: 37006619]. DOI: 10.3389/fmolb.2023.1155705. IF 6.11.
14. Pócsi M, Fejes Z, Bene Z, Nagy A, Balogh I, **Amaral MD**, Macek M Jr, Nagy B Jr* (2023) Human epididymis protein 4 (HE4) plasma concentrations inversely correlate with the improvement of cystic fibrosis lung disease in p.Phe508del-CFTR homozygous cases treated with the CFTR modulator lumacaftor/ivacaftor combination. *J Cyst Fibros* **22**: 1085-1092. [PMID: 37087300]. DOI: 10.1016/j.jcf.2023.04.001. IF 5.53.
15. Clarke LA* & **Amaral MD** (2023) What Can RNA-based Therapy Do for Monogenic Diseases? *Pharmaceutics* **15**: 260. [PMID: 36678889]. DOI: 10.3390/pharmaceutics15010260. IF 6.53.
16. Santos L, Nascimento R, Duarte A, Railean V, **Amaral MD**, Harrison PT, Gama-Carvalho M, Farinha CM* (2023) Mutation-class dependent signatures outweigh disease-associated processes in cystic fibrosis cells. *Cell & Bioscience* **13**: 26. [PMID: 36759923]. DOI: 10.1186/s13578-023-00975-y. IF 6.07.
17. **Amaral MD*** (2023) Using the genome to correct the ion transport defect in Cystic Fibrosis. *J Physiol* **601**: 1573. [PMID: 36068724]. DOI: 10.1113/JP282308. IF 6.23.
18. **Amaral MD*** & Harrison P* (2023) Development of novel therapeutics for all individuals with CF (the future goes on). *J Cyst Fibros* **22**: S45-S49. [PMID: 36319570]. DOI: 10.1016/j.jcf.2022.10.007. IF 5.48.
19. Bacalhau M, Ferreira FC, Silva IAL, Buarque CD, **Amaral MD**, Lopes-Pacheco M* (2023) Additive Potentiation of R334W-CFTR Function by Novel Small Molecules. *J Pers Med* **13**: 102. [PMID: 36675763]. DOI: 10.3390/jpm13010102. IF 4.45.
20. Bacalhau M, Ferreira FC, Souza FR, Kmit A, Silva VD, Pimentel AS, **Amaral MD**, Buarque CD, Lopes-Pacheco M* (2023) Identification of Novel F508del-CFTR Traffic Correctors Among Triazole Derivatives. *Eur J Pharmacol* **938**: 175396. [PMID: 36410419]. DOI: 10.1016/j.ejphar.2022.175396. IF 4.43.
21. Quaresma MC, Botelho HM, Pankonien I, Rodrigues CS, Pinto MC, Costa PR, Duarte A, **Amaral MD*** (2022) Exploring YAP1-centred Networks Linking Dysfunctional CFTR to Epithelial-Mesenchymal Transition. *Life Sci Alliance* **5**: e202101326. [PMID: 35500936]. DOI: 10.26508/lsa.202101326. IF 5.19.

22. Rodenburg LW, Delpiano L, Railean V, Centeio R, Pinto MC, Smits SMA, Van der Windt IS, Van Hugten CFJ, Van Beuningen SFB, Rodenburg RNP, Van der Ent CK, **Amaral MD**, Karl Kunzelmann K, Gray MA, Beekman JM, Amatngalim GD* (2022) Drug repurposing for Cystic Fibrosis: identification of drugs that induce CFTR-independent fluid secretion in nasal organoids. *Int J Mol Sci*. **23**: 12657. [PMID: 36293514] IF 6.21. DOI: 10.3390/ijms232012657.
23. Jo S, Centeio R, Park J, Ousingsawat J, Jeon DK, Talbi K, Schreiber R, Ryu K, Kahlenberg K, Somoza V, Delpiano L, Gray MA, **Amaral MD**, Railean V, Beekman JM, Rodenburg LW, Namkung W, Kunzelmann K* (2022) The SLC26A9 inhibitor S9-A13 provides no evidence for a role of SLC26A9 to airway chloride secretion but suggests a contribution to regulation of ASL pH and gastric proton secretion. *FASEB J* 36: e22534. [PMID: 36183361]. IF 5.19. DOI: 10.1096/fj.202200313RR.
24. Amatngalim GD*, Rodenburg LW, Aalbers BL, Raeven HH, Aarts EM, Sarhane D, Spelier S, Lefferts JW, Silva IA, Nijenhuis W, Vrendenbarg S, Kruisselbrink E, Brunsveld JE, van Drunen CM, Michel S, de Winter-de Groot KM, Heijerman HG, Kapitein LC, **Amaral MD**, van der Ent CK, Beekman JM (2022) Measuring cystic fibrosis drug responses in organoids derived from 2D-differentiated nasal epithelia. *Life Sci Alliance* **5**: e202101320. [PMID: 35922154] IF 5.19. DOI: 10.26508/lsa.202101320.
25. Ferreira JF, Silva IAL, Botelho HM, **Amaral MD**, Farinha CM* (2022) Absence of EPAC1 signaling to stabilize CFTR in intestinal organoids. *Cells* **11**: 2295. [PMID: 35892592]. IF 7.67. DOI: 10.3390/cells11152295.
26. Pankonien I, Quaresma MC, Rodrigues CS, **Amaral MD*** (2022) CFTR, Cell Junctions and the Cytoskeleton. *Int J Mol Sci* **23**: 2688. [PMID: 35269829]. DOI: 10.3390/ijms23052688. IF 5.92.
27. **Amaral MD*** (2022) Precision Medicine for Rare Diseases: The Times They Are A-Changin'. *Curr Opin Pharmacol* **63**: 102201. [PMID: 35255452]. DOI: 10.1016/j.coph.2022.102201. IF 5.55
28. Lim SH, Snider J, Birimberg-Schwartz L, Ip W, Serralha JC, Botelho HM, Lopes-Pacheco M, Pinto MC, Moutaoufik MT, Zilocchi M, Laselva O, Esmaeili M, Kotlyar M, Lyakisheva A, Tang P, López Vázquez L, Akula I, Aboualizadeh F, Wong V, Grozavu I, Opacak-Bernardi T, Yao Z, Mendoza M, Babu M, Jurisica I, Gonska T, Bear CE, **Amaral MD**, Stagljar I* (2022) CFTR interactome mapping using the mammalian membrane two-hybrid high-throughput screening system. *Mol Syst Biol* **18**: e10629 [PMID: 35156780] IF 11.43. DOI: 10.15252/msb.202110629.
29. Pinto MC, Botelho HM, Silva IAL, Railean V, Neumann B, Pepperkok R, Schreiber R, Kunzelmann K, **Amaral MD*** (2022) Systems Approaches to Unravel Molecular Function: High-content siRNA Screen Identifies TMEM16A Traffic Regulators as Potential Drug Targets for Cystic Fibrosis. *J Mol Biol* **434**: 167436. [PMID: 34990652] IF 6.22. DOI: 10.1016/j.jmb.2021.167436.
30. Lopes-Pacheco M*, Bacalhau M, Ramalho S, Silva IAL, Ferreira FC, Carlile GW, Thomas DY, Farinha CM, Hanrahan JW, **Amaral MD** (2022) Rescue of Mutant CFTR Trafficking Defect by the Investigational Compound MCG1516A. *Cells* **11**: 136. [PMID: 35011698] IF 7.67. DOI: 10.3390/cells11010136.
31. Ramalho SS, Silva IAL, **Amaral MD**, Farinha CM* (2021) Rare Trafficking CFTR Mutations Involve Distinct Cellular Retention Machineries and Require Different Rescuing Strategies. *Int J Mol Sci* **23**: 24. [PMID: 35008443] IF 5.92. DOI: 10.3390/ijms23010024.
32. Pinto MC, Quaresma MC, Silva IAL, Railean V, Ramalho SS, **Amaral MD*** (2021) Synergy in Cystic Fibrosis Therapies: Targeting SLC26A9. *Int J Mol Sci* **21**: 6717. [PMID: 34884866] IF 5.92. DOI: 10.3390/ijms222313064.
33. Clarke LA*, Luz VCC, Targowski S, Ramalho SS, Farinha CM, **Amaral MD** (2021) Integrity and Stability of PTC Bearing CFTR mRNA and Relevance to Future Modulator Therapies in Cystic Fibrosis. *Genes* **12**: 1810. [PMID: 34828417] IF 4.10. DOI: 10.3390/genes12111810.
34. Simões, FB, Kmit A, **Amaral MD*** (2021) Cross-Talk of Inflammatory Mediators and Airway Epithelium Reveals CFTR as a Major Target. *ERJ Open Res* **7**: 00247-2021. [PMID: 34912883] DOI: 10.1183/23120541.00247-2021.
35. Pereira C, Mazein A, Farinha CM, Gray MA, Kunzelman K, Ostaszewski M, Balaur I, **Amaral MD**, Falcao AO* (2021) CyFi-MAP - an interactive Pathway- based Resource for Cystic Fibrosis. *Sci Rep* **11**: 22223. [PMID: 34782688] IF 4.38. DOI: s41598-021-01618-3.
36. **Amaral MD*** (2021) How to Determine the Mechanism of Action of CFTR Modulator Compounds: A Gateway to Theranostics. *Eur J Med Chem* **210**: 112989. [PMID: 33190956] IF 6.51. DOI: 10.1016/j.ejmech.2020.112989.
37. Silva IAL, Railean V, Duarte A, **Amaral MD*** (2021) Personalized Medicine Based on Nasal Epithelial Cells: Comparative Studies with Rectal Biopsies and Intestinal Organoids. *J Pers Med* **11**: 421. [PMID: 34065744]. DOI: 10.3390/jpm11050421. IF 4.45. *Journal cover*.

38. Pinto M, Silva IAI, Figueira M; **Amaral MD**, Lopes-Pacheco M (2021) Pharmacological Modulation of Ion Channels for the Treatment of Cystic Fibrosis. *J Exp Pharmacol* **13**: 693-723. [PMID: 34326672] IF 2.24. DOI: 10.2147/JEP.S255377.
39. Roda J*, Teixeira T, Silva IAI, Reis-Silva T, Ferreira R, **Amaral MD**, Oliveira G (2021) Paediatric Population with Cystic Fibrosis in the Centre of Portugal: candidates for new therapies. *J Ped* S0021-7557(21)00094-2. [PMID: 34252371] IF 2.20. DOI: 10.1016/j.jped.2021.05.010.
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41. Silva IAL, Duarte A, Marson FAL, Centeio R, Doušová T, Kunzelmann K, **Amaral MD** (2020) Assessment of Distinct Electrophysiological Parameters in Rectal Biopsies for the Choice of the Best Diagnosis/Prognosis Biomarkers for Cystic Fibrosis. *Front Physiol* **11**: 604580. [PMID: 33424627] IF 4.14. DOI: 10.3389/fphys.2020.604580.
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43. Quaresma MC, Pankonien I, Clarke LA, Sousa LS, Silva IAL, Railean V, Doušová T, Fuxe J, **Amaral MD*** (2020) Mutant CFTR Drives TWIST1 Mediated Epithelial-Mesenchymal Transition. *Cell Death & Dis* **11**: 920. [PMID: 33106471] IF 7.57. DOI: 10.1038/s41419-020-03119-z.
44. Sousa L[§], Pankonien I[§], Simões FB, Chanson M, **Amaral MD*** (2020) Impact of KLF4 on cell proliferation and epithelial differentiation in the context of Cystic Fibrosis. *Int J Mol Sci* **21**: 6717. [PMID: 32937756] IF 5.92. DOI: 10.3390/ijms21186717. [[§]Equal contributions]
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193. **Amaral MD**, Galego L, Rodrigues-Pousada C* (1993) Heat-shock-induced protein synthesis is responsible for the switch-off of *hsp70* transcription in *Tetrahymena*. *BBA - Gene Struct & Express*** **1174**: 133-142. [PMID: 8357830] IF: 4.49. [***currently: - Gene Regul Mech*].

194. **Amaral MD**, Galego L, Rodrigues-Pousada C* (1988) Stress response of *Tetrahymena pyriformis* to arsenite and heat shock: differences and similarities. *Eur J Biochem*** **171**: 463-470. [PMID: 3126063] IF: 4.250. [***currently: - FEBS J*]

Book chapters

1. **Amaral MD**, Clarke LA, Farinha CM, Botelho HM (2024) Systems Biology and the New Omics. In: Hodson & Geddes' Cystic Fibrosis, 5th ed. Bush A, **Amaral MD**, Davies JC, Simmonds NJ, Taylor-Cousar JL, Ranganathan S, eds. CRC Press, Francis & Taylor Group, Boca Raton, FL, USA. ISBN: 9781032202204. Ch. 10, pp. 96-110.
2. De Boeck K, **Amaral MD** (2024) Personalized Medicine for Cystic Fibrosis in the 21st Century. In: Hodson & Geddes' Cystic Fibrosis, 5th ed. Bush A, **Amaral MD**, Davies JC, Simmonds NJ, Taylor-Cousar JL, Ranganathan S, eds. CRC Press, Francis & Taylor Group, Boca Raton, FL, USA. ISBN: 9781032202204. Ch. 67, pp. 682-692.

3. **Amaral MD**, Railean V, Rodrigues CS, Pankonien I (2024) Airway epithelial cells for Cystic Fibrosis studies. In: Inflammation and infection in Cystic Fibrosis. Schwarz C, Sands D, Sermet-Gaudelius I, Peckham D, eds. ECFS book. Ch. 2, pp. 29-43.
4. **Amaral MD** (2011) "Terapia Proteica". In: Tratado de Fibrosis Quística. Salcedo A, Gartner S, Novo MDG, Girón RM, eds. Editorial Justim SL, Madrid, Spain. ISBN: 978-84-695-0562-5. Ch. 35, pp. 459-468.
5. Kunzelmann K & **Amaral MD** (2008) "Novas Abordagens Terapêuticas Destinadas a corrigir o Defeito Básico na Fibrose Cística". In: *Fibrose Cística: Enfoque Multidisciplinar*. Neto NL, Coordenador. Secretaria de Estado de Santa Catarina, Florianópolis, SC, Brasil. ISBN: 978-85-98854-02-1. Ch.20, pp.449-494.
6. Freitas PP, Ferreira HA, Graham DL, Clarke LA, **Amaral MD**, Martins V, Fonseca L, Cabral JS (2004) "Magnetoresistive DNA chips". In: *Magnetoelectronics*. Johnson M (Editor). Elsevier-Academic Press, Amsterdam, Netherlands. Ch. 7, pp. 331-373. ISBN: 9780080473253.
7. Farinha CM, **Amaral MD** (2002) "Processing and intracellular trafficking of wild-type and mutant CFTR". In: *Proc 25th European Cystic Fibrosis Conference Genova*, Italy (June 20-23). Romano L, Manno G, Galietta LJV, Eds. Monduzzi Editores, Bologna, Italy, pp.1-6. ISBN: 88-323-2622-1.

Other Publications

1. **Amaral MD** (2010) Cystic Fibrosis – Translating Basic Science Knowledge into Therapies. *Eur Resp Disease* **6**, 66-9.
2. **Amaral MD**, Clarke LA, Roxo-Rosa M, Sousa L (2006) Genomics and proteomics approaches to study the genetic disease cystic fibrosis. *Revstat* **27**, 47-54.
3. **Amaral MD** (2004) Editorial. *J Cyst Fibros* **3(S2)**, 3.
4. Edelman A, **Amaral MD** (2004) General introduction to section C: biochemistry and biophysics of CFTR. *J Cyst Fibros* **3(S2)**, 67.
5. Freitas PP, Freitas H, Graham D, Clarke L, Amaral M, Martins V, Fonseca L, Cabral JS (2003) Magnetoresistive Biochips. *Europhysics News* **34**, 224-226.

In addition, of a total of ~300 abstracts in peer-reviewed international conferences, about half were published in international ISI-indexed journals.

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6. PATENTS

1. **Amaral MD**, Botelho HM, Lopes-Pacheco M (2023) Method of Identifying Agents for the Treatment of Cystic Fibrosis Caused by the Mutation F508del. PCT/IB2023/051813
2. **Amaral MD**, Almaça J, Faria D, Kunzelmann K, Schreiber R, Conrad C, Pepperkok R (2013) Drug Targets for Cystic Fibrosis And Other Conditions. Filed by University of Lisboa (Portugal) to the International Bureau of the World Intellectual Property Organization. PCT/IB2013/058851
3. Matos P, **Amaral MD**, Moniz S, Moraes B, Mendes AI, Jordan P (2011) Rac1 signalling stimulation rescues F508del-CFTR plasma membrane expression and function in human airway cells: a novel therapeutic approach for cystic fibrosis. Patent US 14/070,533.
4. **Amaral MD**, Dahimène S, Mendes F, Luz S (2011) Two novel human epithelial cell lines to be used in assays for traffic studies/ screens of CFTR protein (wild-type and with the F508del mutation). Pat Pending PT105697.

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7. GRANTS

Ongoing

2025/28 FFC-Italian Cystic Fibrosis Foundation. *INSIGHT-CF: Mechanistic Insights into the Differentiation of CF Epithelia: a Path to Balance its Regeneration Defect*. Budget: 200K€; 3 yrs. PI: MD Amaral.

2024/27 European Union (HORIZON-MSCA-2022-DN-01-01-101120108). *ORGESTRA-Organoid technologies for disease modeling, drug discovery and development for rare diseases*. Doctoral Network (DN). Total budget: 3.5M€ / FCID: 487K€; 4 yrs. PI: R Masereeuw, Utrecht University (Netherlands). PI FCUL: MD Amaral.

2025/27 Fundació Respiralia. *TestMed - Study of the Efficacy of New Drugs in Organoids to Predict Personalized Treatments for Cystic Fibrosis*". Budget: 50 K€; 2 yr. PI: MD Amaral.

2024/27 CF Trust Strategic Research Centre Award (Ref. SRC 026) "*PTSuppress – Novel lead compounds as potential suppressor drugs for CFTR PTC mutations*". Total budget: 800K£. FCUL Budget: 240K€; 4 yrs. PI: M Gray, Newcastle (UK). PI for the FCUL group: MD Amaral.

Previous

2018/25 European Union (H2020-SC1-2017-755021). *HIT-CF – Personalised Treatment For Cystic Fibrosis Patients With Ultra-rare CFTR Mutations (and beyond)*. Total budget: 6.7M€ / FCID: 257K€; 5 yrs. PI: K van der Ent, University Medical Centre Utrecht (Netherlands). PI FCUL: MD Amaral.

2022/24 FCT-2022.03453.PTDC "*NewKinCF: Desvendando o mecanismo de ação de uma nova cinase reguladora do tráfego e atividade da proteína F508del-CFTR*". PI: H Botelho. Budget: 50 K€

2023/24 Emily Entourage. "*CF-Splice: ASO based strategy to correct a population specific CFTR splicing* variant". PI: L Clarke. Budget:

2021/23 ANFQ-Associação Nacional de Fibrose Quística. "*TestMed - Study of the Efficacy of New Drugs in Organoids to Predict Personalized Treatments for Cystic Fibrosis*". Budget: 10 K€; 1 yr. PI: MD Amaral.

2020/21 CFF Cystic Fibrosis Foundation, USA (Ref. FARINH19I0) "*DysMut2 – Characterization of Dysfunctional Mechanisms in Class II Mutations*". Budget: 108K$; 1 yr. PI: CM Farinha; co-PI: MD Amaral.

2019/21 Gilead Sciences (Research Scholars Program in Cystic Fibrosis) *Rep2CFTR: Repurposing FDA-Approved Drugs for Class II Rare CFTR Mutants*. Budget: 130K$; 2 yrs. PI: M Lopes-Pacheco (Mentored by MD Amaral).

2018/22 CF Trust Strategic Research Centre Award (Ref. SRC 013) "*Personalised Therapies for all: Restoring airway function in CF using Alternative Chloride Channels*". Total budget: 750K£. FCUL Budget: 244K€; 4 yrs. PI: M Gray, Newcastle (UK). PI for the FCUL group: MD Amaral.

2020/21 CFF Cystic Fibrosis Foundation, USA (Ref. AMARAL19G0) "*PTSense: – Novel Compounds as Potential Drugs for CFTR PTC Mutations*". Budget: 151K$; 1 yr. PI: MD Amaral.

2019 Vertex Pharmaceuticals (Donation grant). *Identification of Portuguese patients with Cystic Fibrosis by Complete CFTR Gene Mutation Genotyping and Rectal Biopsy Analyses*. Budget: 52K€; 1 yr. PI: MDAmaral

2018/21 FCT (PTDC/MED-QUI/28800/2017) "*iDrugCF - Identification of New Drugs for Cystic Fibrosis*". Budget: 240K€; 3 yrs. PI: MD Amaral.

2016 FCT/POCTI (PTDC/BIM-MEC/2131/2014) "*DIFFTARGET-Novel Factors of CFTR Traffic Related to Epithelial Cell Differentiation: Potential Therapeutic Targets for Cystic Fibrosis*". Budget: 200K€; 3 yrs. PI: MD Amaral.

2016/19 FCT/POCTI (PTDC/QEQ-SUP/4283/2014) "*FARMTRANSANION-Anion transmembrane transport promoted by drug-like molecules: building a library of anion carriers inspired in Ataluren (PTC124)*". Budget: 200K€; 3 yrs. PI: V Félix.

2016/19 FCT/POCTI (PTDC/EEI-ESS/4923/2014) "*MIMED - Mining the Molecular Metric Space for Drug Design*". Budget: 127K€; 3 yrs. PI: A Falcão

2016/18 CFF Cystic Fibrosis Foundation, USA (Ref. AMARAL15XX1) "*RNA LIFE – Novel RNA Regulators as Potential Drug Targets for Cystic Fibrosis*". Budget: 324K$; 2 yrs. PI: MD Amaral.

2015/19 ERARE15-pp-010/JTC 2015 "*INSTINCT - Induced Pluripotent Stem Cells for Identification of Novel Drug Combinations Targeting Cystic Fibrosis Lung and Liver Disease*". Total budget: 1.24 M€; 124K€ (FFCUL); 3 yrs. Principal Investigator (U Martin, Univ. Hannover, Germany). FCUL PI: MD Amaral.

2016/18 CFF Cystic Fibrosis Foundation, USA (Ref. AMARAL16I0) "*Characterization of Orphan CFTR mutations*". Budget: 108K$; 2 yrs. PI: MD Amaral.

2016 Gilead GÉNESE Programme (Ref PGG/008/2015) "*Predicting Clinical Drug Efficacy of CFTR Protein Modulators Using Intestinal Organoids and Nasal Cells from Patients with Cystic Fibrosis*". 30K€; 1 yr. Principal Investigator: MD Amaral.

2016 Vertex Pharmaceuticals (Donation grant). *Complete CFTR gene mutation analysis in Portuguese patients with Cystic Fibrosis*. Budget: 20K€; 1 yr. PI: MD Amaral

2015/17 CFF Cystic Fibrosis Foundation, USA (Ref. AMARAL15XX0) "*CFTR mRNA Stability Studies for PTC Mutations*". Budget: 222K$; 2 yrs. PI: MD Amaral.

2015/18 FAPESP- Fundação de Amparo à Pesquisa do Estado de São Paulo, Brazil (Ref) "Drugs Efficacy Evaluation – Corrector VX-809 and Potentiator VX-770 – on CFTR (Cystic Fibrosis Transmembrane conductance Regulator) Protein Function in Primary Respiratory and Intestinal Epithelial Cells from Patients with Cystic Fibrosis". Budget: 200 K BRL. 3 yrs. PI: AF Ribeiro.

2014/19 CF Trust Strategic Research Centre Award (Ref. SRC 003) "*INOVCF- Innovative non-CFTR Approaches for Cystic Fibrosis Therapies*". Total budget: 750K£. FCUL Budget: 178.4K€; 4 yrs. PI: M Gray, Newcastle (UK). PI for the FCUL group: MD Amaral.

2012/15 FCT/POCTI (PTDC/SAU-GMG/122299/2010) "*Characterization of ER-Quality Control for the F508del-CFTR Protein: Potential Therapeutic Targets for Cystic Fibrosis*". 170K€; 3 yrs. Principal Investigator: MD Amaral.

2010/14 COST (EU) BM1003. "*Microbial Cell Surface Determinants of Virulence as Targets for New Therapeutics in CF*". Coordinator: A Molinaro, Università di Napoli, Italy. 350K€; 4 yrs.

2014 Gilead GÉNESE Programme (Ref MED-2013-250) "*Diagnosis, Prognosis and Personalized Treatment of Cystic Fibrosis*". 20K€, 1 yr. PI: MD Amaral.

2013 Gilead GÉNESE Programme (Ref MED-2012-022) "*Incidence of CFTR mutations in Individuals with Chronic Respiratory Diseases and their Effect in Disease Expression*". 20K€, 1 yr. Principal Investigators: AS Ramalho/ MD Amaral.

2012/15 Science Without Borders Programme - 'Ciência Sem Fronteiras' (Ref CAPES- 053/2012) "Diagnosis, Prognosis and Treatment of Cystic Fibrosis". Special Visiting Researcher at UniCAmp, University of Campinas (SP, Brazil) 20K + 1 post-doc fellowship + 1 PhD student PI: MD Amaral / Co-PI: Carmen Bertuzzo (UniCamp, Campinas, SP Brazil).

2011/13 CFF-Cystic Fibrosis Foundation, USA (Ref: 7207534) *Identification of Novel Targets Rescuing of F508del-CFTR Traffic: Mechanism of Action*. 228US K$, 2 yrs. Principal Investigator: MD Amaral.

2009/12 FCT (PIC/IC/83103/2007) *Diagnosis, Prognosis and Treatment of Cystic Fibrosis*. 170K€; 3 yrs. PI: MD Amaral.

2007/11 European Union (FP6-2005-LH-7-037365). *TargetScreen2 - Novel post-genomics cell-based screens for drug targeting in membrane protein disorders*. Budget: 3.7 M€; 4 yrs. Scientific Coordinator: MD Amaral.

2006/10 European Union (FP6-2004-LSH-018932). *EuroCareCF – European Coordination Action for Research in Cystic Fibrosis*. 89.7K€; 3 yrs. Coordinator: David Sheppard, University of Bristol, Bristol (UK). Vice-Coordinator and PI for Coordination of Basic Research: MD Amaral.

2005/08 European Union (FP6-2004-IST-NMP-2-016833). *SNiP2CHIP – Development of a complete integrated SNP analysis system*. 195.4K€; 3 yrs. Coordinator: Paul Galvin, Tyndall National Institute, Cork (Ireland). PI for the FCUL group: MD Amaral.

2005/08 European Union (FP6-2003-LSH-512044). *NEUPROCF – Development of New Technologies for Low Abundance Proteomics: Application to Cystic Fibrosis*. 15K€; 3 yrs. Coordinator: Aleksander Edelman, Faculté de Médecine Necker – Enfants Malades, Paris (France). PI for the FCUL group: MD Amaral.

2005/08 BBSRC - Biotechnology and Biological Sciences Research Council, UK (BB/C517517/1). *Use of Human-Murine CFTR Chimeras to Investigate the Coupling of Permeation and Gating in the CFTR Chloride Channel*. 10K€; 3 yrs. Principal Investigator: David Sheppard, University of Bristol, Bristol (UK). PI for the FCUL group: MD Amaral.

2005/08 FCT /POCTI (SAU/MMO/58425/2004). *CFTR Interactome*. 95K€; 3 yrs. Principal Investigator: MD Amaral.

2005/08 FCT /POCTI (BIA-BCM/56609/2004). *Caenorhabditis elegans as a model to study folding of CFTR protein*. 95K€; 3 yrs. Principal Investigator: MD Amaral.

2005/07 FCT. *Aquisition of a small physiology unit*. Project approved by the *National Programme for Scientific Re-equipament*. 132K€. Principal Investigator: MD Amaral.

2003/06 FCT /POCTI (MGI/47382/2002) *Folding, Processing and Function of Normal and Mutant Cystic Fibrosis Transmembranar Conductance Regulator: Structural Implications*. 87K€; 3 yrs. Principal Investigator: MD Amaral.

2002/05 European Union (FP5-QLRT-2000-0182). *CF-Chip – Novel Genechip Technology for Early Detection of Cystic Fibrosis*. Budget: 147.6K€; 3 yrs. Coordinator: Paul Galvin, National Microelectronics Research Centre (NMRC), "Lee Maltings", University College, Cork (Ireland). PI for the FCUL group: MD Amaral.

2000/04 European Union (FP5-QLK-1999-00241, Concerted Action). *CF Network – Thematic Network around Cystic Fibrosis and Related Diseases*. 236.4K€; 4 yrs. Coordinator: Jean-Jacques Cassiman, University of Leuven (Belgium). PI for FCUL: MD Amaral.

2001/04 FCT/POCTI (MGI/35737/1999). *Biogenesis & Function of CFTR Protein with Different Mutations: Molecular Basis for Clinical and Therapeutic of Cystic Fibrosis?* 85K€; 3 yrs. PI: MD Amaral; Co-PI: D Penque (INSA).

2002/05 POCTI (MGI/40878/2001). *In search of New Molecular Targets for the Development of Novel Therapeutic Strategies for Cystic Fibrosis*. 60K€; 2 yrs. PI: D Penque (INSA); Co-PI: MD Amaral.

1997/00 FCT/ PraxisXXI (PSAU/P/SAU/55/96). *Cystic Fibrosis - Traffic and Cellular Function of CFTR*. 55K€; 3 yrs. PI: MD Amaral.

1995/97 JNICT (PBIC/C/BIA/2060/95). *Expression Studies of CFTR Gene*. 37.4K€; 3 yrs. PI: D Penque (INSA). Team member.

1995/97 JNICT/ French Embassy (049 C0). *Immortalization of Epithelial Cells in Portuguese Cystic Fibrosis Patients: Models to Study CFTR Gene Expression*. 1K€; 1yr. PI: MD Amaral.

1993/95 JNICT (PBIC/C/SAU/1587/92). *Molecular Biology of Cystic Fibrosis in the Portuguese Population: Epidemiology, Anthropogenetics and Physiopathology*. 75K€; 3 yrs. PI: J. Lavinha (INSA). Team member.

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8. TEACHING EXPERIENCE

Teaching duties since 11 April 1983 in the Department of Chemistry and Biochemistry at the Faculty of Sciences, University of Lisboa, consisted of **6-9 hours per week on average**, with the following exceptions:

- **1989/90 and 1990/91** – Two years of exemption from teaching duties for completion of PhD work (although still teaching during these 2 academic years, 8 hours per week of practical classes in Genetics, Virology and Immunology were still delivered in the first semester).
- **1994/95** – One year of exemption from teaching duties for postdoctoral work (not having benefited from the three years provided by law for completion of the PhD).
- **1998/99** – One semester of exemption from teaching duties due to teaching overload in the previous three years.
- **2000/01** – One year sabbatical leave (under Article 77(1) of Law no. 448/79 of 13 November, ECDU). Visiting Professor at Department of Molecular Biosciences, Northwestern University (IL, USA), in a collaboration with Richard I Morimoto.
- **2008/09** – One year sabbatical leave (under Article 77(1) of Law no. 448/79 of 13 November, ECDU). to coordinate the EU project *TargetScreen* as visiting researcher at EMBL-European Molecular Biology Laboratory, Heidelberg, Germany, in a collaboration with Rainer Pepperkok.
- **2009/11** – One year of special leave (under Article 77(4) of Law no. 19/80 of 16 July, ECDU) to coordinate the EU project *TargetScreen* as visiting researcher at EMBL-European Molecular Biology Laboratory, Heidelberg, Germany, in a collaboration with Rainer Pepperkok.
- **2015/16** – One year sabbatical leave (under Article 77(1) of Law no. 448/79 of 13 November, ECDU). Visiting researcher (for 6 months) at EMBL-European Molecular Biology Laboratory, Heidelberg, Germany, under a collaboration with Rainer Pepperkok to coordinate the FCT project *DIFFTARGET*.
- **2021/22** – One year sabbatical leave (under Article 77(1) of Law no. 448/79 of 13 November, ECDU). Visiting Professor (for 6 weeks) at University of Shanghai.

Course Teaching and Coordination

- **Since 2023** –***Biology & Biochemistry***, 2nd year of the Environmental Engineering undergraduate degree. Teaching and coordinating lectures and tutorials. Coordinating laboratory classes. ULisboa School at the University of Shanghai, China.

- **Since 2008** – ***Molecular Biology***, 3rd year of the Biochemistry undergraduate degree. Teaching and coordinating lectures and tutorials. FCUL-Faculty of Sciences, University of Lisboa, Portugal.
- **Since 2008** – ***Human Molecular Biology***, 1st year of Biochemistry & Biomedicine and of Molecular Biology & Genetics MSc degrees. Teaching and coordinating lectures and tutorial classes. FCUL.
- **2003/04** – ***Life Sciences***, elective course for the 3rd year of the Computer Science undergraduate degree. Teaching and coordinating lectures. FCUL.
- **2000/01** – ***Perspectives in Biochemistry and Biology***, 1st year of the Biochemistry undergraduate degree. Teaching and coordinating lectures. Faculty of Sciences, University of Lisboa, Portugal
- **1993-2008** – ***Molecular Genetics***, 3rd year of the Biochemistry undergraduate degree. Teaching and coordinating lectures and tutorials. FCUL.
- **1995-2008** – ***Genetics, Virology and Immunology***, 3rd year of the Biochemistry undergraduate degree. Teaching and coordinating lectures and tutorials. FCUL.
- **1986-1993** – ***Molecular Genetics***, 3rd year of the Biochemistry undergraduate degree. Teaching lectures, tutorials and laboratory classes. Faculty of Sciences, University of Lisboa, Portugal.
- **1983-1986** – Teaching tutorials and laboratory classes of several general Biochemistry courses. FCUL.

Experience in Remote Teaching

I am experienced in remote teaching, acquired during the COVID-19 pandemic. This includes usage of: 1) the **Moodle platform** to manage course content, post lecture and tutorial materials, and conduct online assessments; as well as 2) the **Zoom platform** and **Microsoft Teams** to deliver live (synchronous) lectures and tutorials to maintain interactive and engaging learning environments.

Innovation in Teaching

I attended training sessions, as a participant, on the platforms ChatGPT and Mentimeter, specifically designed for higher education lecturers, and subsequently integrated these tools to innovate the content delivered in the subjects for which I am responsible, namely *Molecular Biology* (3rd year, BSc in Biochemistry) and *Human Molecular Biology* (1st year, MSc programmes in Biochemistry and Biomedicine, and in Molecular Biology and Genetics)."

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9. VARIOUS

Grant Reviewer

ANR – Agence Nationale de la Recherche, France; BSF – USA-Israel Binational Science Foundation; CCFF – Canadian CF Foundation; CFF – Cystic Fibrosis Foundation (USA); Cystic Fibrosis Trust (UK); CFRI- Cystic Fibrosis Research Institute (USA); DFG – Deutsche Forschungsgemeinschaft (Germany); NCFS-Dutch Cystic Fibrosis Foundation; EMBL – European Molecular Biology Laboratory; FWO (Belgium); Italian Cystic Fibrosis Foundation; King Baudouin Foundation (Belgium); La Caixa Foundation (Barcelona, Spain); NSF – National Science Foundation (USA); RIA - Vertex CF Research Innovation Awards (USA); SFI – Science Foundation Ireland; The University of Alabama at Birmingham (UAB) Cystic Fibrosis Research Center; VLM – Vaincre la Mucoviscidose (French CF Foundation); Wellcome Trust (UK); CFRI-Cystic Fibrosis Research Institute; NCFS-Nederlandese Cystic Fibrosis Stitching; Gregory Fleming James Cystic Fibrosis Research Center Projects (Alabama, USA); Singapore Ministry of Education (MOE) Academic Research Fund (AcRF).

Journal Reviewer

Science Translation Medicine; Nature Structural & Molecular Biology; Journal of Molecular Biology; BBA-Biochimica et Biophysica Acta; Journal of Medical Genetics; American Journal of Physiology; Gene Therapy; Molecular and Cell Biology; Journal of Molecular Biology; Proteomics; Human Molecular Genetics, Thorax; among many others.

Textbook Reviewer

Alberts B, Dennis Bray D, Hopkin K, Johnson A, Lewis J (2009) Essentials of Molecular and Cellular Biology 3rded. Garland Science. ISBN-13: 978-0815341291.

Centre Evaluator

Mondor Institute for Biomedical Research (Paris), evaluated by AERES (France).

Organization of Conferences

I organized **26 international conferences**, having been member of the Scientific Advisory Committee of the *ABC – Special FEBS Meetings on ABC Proteins*. I was President of the *36th Annual Conference of the European Cystic Fibrosis Society*, 12-15 June 2013, Lisboa, Portugal; Chairman (2004-2009) of the *ECFS Basic Science Conferences- New Frontiers in Basic Science of Cystic Fibrosis*; Scientific Committee member of various *European Cystic Fibrosis Society Conferences* (Vice-Chairman in 2007); Co-Organizer of *2nd International Congress on Stress Responses in Biology and Medicine* (2004); Chairman (2000-2003) of the *European CF Network Consensus Meetings Towards Validation of CFTR Gene Expression & Functional Assays*.

Invited talks

I gave **247 invited international talks** (+74 national), including one opening plenary of North-American Cystic Fibrosis Conference (2007) and 3 opening plenaries at European CF Conferences (2004, 2008, 2013).