

Nuno Luís Barbosa Morais
Curriculum Vitae – May 22, 2018

Biographical

Born November 5, 1977 in Viana do Castelo, Portugal
Portuguese citizenship, male

Institutional address:

Instituto de Medicina Molecular
Av Prof Egas Moniz
Edif Egas Moniz, Sala P3B-34
1649-028 Lisboa
Portugal

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Fax: +351 21 7999412
E-mail: nmorais@medicina.ulisboa.pt
URL: <http://imm.medicina.ulisboa.pt/group/compbio/Nuno.html>

Languages:

Portuguese (native), English (fluent), Spanish (fluent), French (basics)

Current occupation

Research Group Leader

2015, January -
Instituto de Medicina Molecular, Faculdade de Medicina da Universidade de Lisboa, Portugal

Education

PhD in Biomedical Sciences, University of Lisbon Medical School (Portugal) *2007*
Thesis: “Bioinformatics Studies on the Complexity of Splicing and Gene Expression”
Supervisors: Professor Samuel Aparício (Univ. Cambridge, UK), Professor Maria do Carmo Fonseca
Classification: *Summa Cum Laude* (unanimous)

Graduate Program in Biophysics and Biomedical Engineering, Faculty of Sciences of the University of Lisbon (Portugal) [Classification: 19/20] *2001*

Degree (“Licenciatura” - Bachelor/MSc) in Technologic Physics Engineering, Instituto Superior Técnico - Technical University of Lisbon (Portugal) [Classification: 17/20] *2000*

Professional Experience

Honorary Senior Research Fellow *2013, October - 2015, April*
Nuffield Department of Obstetrics and Gynaecology, University of Oxford, UK

Marie Curie Fellow *2013, June - 2014, May*
Instituto de Medicina Molecular, Faculdade de Medicina da Universidade de Lisboa, Portugal

Senior Postdoctoral Fellow (Computational Biology) *2010, August - 2013, May*
The Donnelly Centre, University of Toronto, Canada
Supervisor: Professor Benjamin J. Blencowe

Research Associate (Computational Biology) *2006, August - 2010, July*
Department of Oncology, University of Cambridge / Cancer Research UK
Supervisor: Professor Simon Tavaré

Research Assistant (Computational Biology) *2005, October - 2006, July*
Department of Oncology, University of Cambridge
Supervisor: Professor Simon Tavaré

Visiting Appointments

| | |
|--|-----------------------------------|
| Department of Oncology, University of Cambridge (UK) (Aparício Group, Cancer Genomics Programme, as visiting PhD student) | <i>2003, January - 2005, July</i> |
| Institute of Molecular and Cell Biology (Singapore) (Fugu Informatics Group, as visiting PhD student) | <i>2002, August</i> |
| European Molecular Biology Laboratory (Heidelberg, Germany) (Valcárcel Group, Gene Expression Programme, as visiting PhD student) | <i>2002, February - May</i> |

Awards and Honors

| | |
|---|-------------------------------|
| EMBO (European Molecular Biology Organization) Installation Grant | <i>2015 -</i> |
| FCT Investigator Starting Grant | <i>2015 -</i> |
| Marie Curie International Outgoing Fellowship | <i>2011, June - 2014, May</i> |
| Canadian Institutes for Health Research Postdoctoral Fellowship | <i>2010, July - 2012, May</i> |
| EMBO (European Molecular Biology Organization) Short-Term Fellowship (ASTF 44-2005) | <i>2005</i> |
| Fundação para a Ciência e a Tecnologia, Portugal / European Social Fund (3rd FP) Fellowship PRAXIS XXI SFRH/BD/2914/2000 (PhD) | <i>2001-2004</i> |
| PRODEP III, Portuguese Min. Education / European Social Fund (3rd FP) Fellowship “Programa de Estágios no Ensino Superior” | <i>2000, March-August</i> |

Other Projects and Grant Support

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| EMBO YIP Small Grant (as P.I.) | <i>2017</i> |
| AstraZeneca Innovate Competition - Translational Research Grant (as P.I.) “Alternative splicing during neuronal development” (awarded to Mariana Ferreira) | <i>2016 - 2017</i> |
| iMM Directors’ Exploratory Project (as P.I.) “RNA regulation in colorectal cancer: transcriptomic landscapes of metastasis and their clinical implications” | <i>2016 - 2017</i> |
| FCT Project PTDC/BIM-MED/3295/2014 (co-investigator 15%) “Angiocrine factors as modulators of spinal cord regeneration” (PI: Leonor Saúde) | <i>2016, May 1 - 2019, April 30</i> |
| FCT Project PTDC/EMS-SIS/0642/2014 (co-investigator 15%) “Personalizing cancer therapy through integrated modeling and decision” (PI: Susana Vinga) | <i>2016, June 17 - 2019, June 16</i> |
| FCT Project EXPL/EMS-SIS/1954/2013 (co-investigator 15%) “Multiscale modeling for personalized therapy of bone metastasis” (PI: Susana Vinga) | <i>2014, April - 2015, September</i> |

Publications

Journal Articles:

(key articles with highlighted numbering)

(41) Leznicki P, Natarajan J, Bader G, Spevak W, Schlattl A, Weidlich S, Rehman SAA, Zoephel A, Bordone MC, Barbosa-Morais NL, Boehmelt G, Kulathu Y. “Expansion of DUB functionality through the production of alternative isoforms: USP35, a case study”. *Journal of Cell Science*, 2018 Apr 23. pii: jcs.212753. doi: 10.1242/jcs.212753.

(40) Marteil G, Guerrero A, Vieira AF, de Almeida BP, Machado P, Mendonça S, Mesquita M, Villarreal B, Fonseca I, Francia ME, Dores K, Martins NP, Jana SC, Tranfield EM, Barbosa-Morais NL, Paredes J, Pellman D, Godinho SA, Bettencourt-Dias M. “Over-elongation of centrioles in cancer promotes centriole amplification and chromosome missegregation”. *Nat Commun*, 2018 Mar 28;**9**(1):1258

(39) Cardoso V, Chesne J, Ribeiro H, Garca-Cassani B, Carvalho T, Bouchery T, Shah K, Barbosa-Morais NL, Harris N, Veiga-Fernandes H. “Neuronal regulation of type 2 innate lymphoid cells via neuromedin U”. *Nature*, 2017 Sep 14;**549**(7671):277-281

(38) Gallego-Paez LM, Bordone MC, Leote AC, Saraiva-Agostinho N, Ascensão-Ferreira M, Barbosa-Morais NL⁺. “Alternative splicing: the pledge, the turn and the prestige - The key role of alternative splicing in human biological systems”. *Human Genetics*, 2017 Sep;136(9):1015-1042 (+ corresponding author)

(37) Rijo-Ferreira F, Pinto-Neves D, Barbosa-Morais NL, Takahashi JS, Figueiredo LM. “Trypanosoma brucei metabolism is under circadian control”. *Nat Microbiol*, 2017 Mar 13;**2**:17032

(36) Liu Y, Noon AP, Cabeza EA, Shen J, Kuk C, Ilczynski C, Ni R, Sukhu B, Chan K, Barbosa-Morais NL, Hermanns T, Blencowe BJ, Azad A, van der Kwast TH, Catto JWF, Zlotta AR, Wrana JL. “Next generation RNA sequencing of archival formalin fixed paraffin embedded urothelial bladder cancer”. *Eur Urol*, 2014 Dec;66(6):982-6

(35) Braunschweig U, Barbosa-Morais NL, Pan Q, Nachman EN, Alipahani B, Gonatopoulos-Pournatzis T, Frey B, Irimia M, Blencowe BJ. “Widespread intron retention in mammals functionally tunes transcripts”. *Genome Res*, 2014 Nov;**24**(11):1774-86

(34) Pena AC, Pimentel MR, Manso H, Vaz-Drago R, Neves D, Aresta-Branco F, Ferreira FR, Guegan F, Coelho LP, Carmo-Fonseca M, Barbosa-Morais NL, Figueiredo LM. “Trypanosoma brucei histone H1 inhibits RNA polymerase I transcription and is important for parasite fitness in vivo”. *Mol Microbiol*, 2014 Aug;**93**(4):645-63

(33) Han H, Irimia M, Ross PJ, Sung HK, Alipanahi B, David L, Golipour A, Gabut M, Michael IP, Nachman EN, Wang E, Trcka D, Thompson T, O’Hanlon D, Slobodeniuc V, Barbosa-Morais NL, Burge CB, Moffat J, Frey BJ, Nagy A, Ellis J, Wrana JL, Blencowe BJ. “MBNL proteins repress ES-cell-specific alternative splicing and reprogramming”. *Nature*, 2013 Jun 13;**498**(7453):241-5

(32) Ward MC, Wilson MD, Barbosa-Morais NL, Schmidt D, Stark R, Pan Q, Schwalie PC, Menon S, Lukk M, Watt S, Thybert D, Kutter C, Kirschner K, Flicek P, Blencowe BJ, Odom DT. “Latent Regulatory Potential of Human-Specific Repetitive Elements”. *Mol Cell*, 2013 Jan 24;**49**(2):262-72

(31) Barbosa-Morais NL, Irimia M, Pan Q, Xiong HY, Gueroussov S, Lee LJ, Slobodeniuc V, Kutter C, Watt S, Çolak R, Kim T, Misquitta-Ali CM, Wilson MD, Kim PM, Odom DT, Frey BJ, Blencowe BJ. “The Evolutionary Landscape of Alternative Splicing in Vertebrate Species”. *Science*, 2012 Dec 11;**338**(6114):1587-93

(30) Muralidhar B, Winder D, Murray M, Palmer R, Barbosa-Morais N, Saini H, Roberts I, Pett M, Coleman N. “Functional evidence that Drosha overexpression in cervical squamous cell carcinoma affects cell phenotype and microRNA profiles”. *J Pathol*, 2011 Aug;**224**(4):496-507

(29) Ahmed AA, Lu Z, Jennings NB, Etemadmoghadam D, Capalbo L, Jacamo RO, Barbosa-Morais N, Le XF; Australian Ovarian Cancer Study Group, Vivas-Mejia P, Lopez-Berestein G, Grandjean G, Bartholomeusz G, Liao W, Andreeff M, Bowtell D, Glover DM, Sood AK, Bast RC Jr. “SIK2 is a cen-

troosome kinase required for bipolar mitotic spindle formation that provides a potential target for therapy in ovarian cancer”. *Cancer Cell*, 2010 Aug 9;**18**(2):109-21

(28) Dunning MJ, Curtis C, Barbosa-Morais NL, Caldas C, Tavaré S, Lynch AG.. “The importance of platform annotation in interpreting microarray data”. *Lancet Oncol*, 2010 Aug;**11**(8):717

(27) Barbosa-Morais NL⁺, Dunning MJ, Samarajiva SA, Darot JFJ, Ritchie ME, Lynch AG, Tavaré S. “A re-annotation pipeline for Illumina BeadArrays: improving the interpretation of gene expression data”. *Nucleic Acids Research*, 2010 Jan 1;**38**(3):e17 (+ corresponding author)

(26) Lynch AG, Dunning MJ, Iddawela M, Barbosa-Morais NL, Ritchie ME. “Considerations for the processing and analysis of GoldenGate-based two-colour Illumina platforms”. *Statistical Methods in Medical Research*, 2009 Oct;**18**(5):437-52

(25) White V, Scarpini C, Barbosa-Morais NL, Ikele E, Carter S, Laskey RA, Miller R, Coleman N. “Isolation of stool-derived mucus provides a high yield of colonocytes suitable for early detection of colorectal carcinoma”. *Cancer Epidemiology, Biomarkers & Prevention*, 2009 Jul;**18**(7):2006-13

(24) Dunning AM, Healey CS, Baynes C, Maia AT, Scollen S, Vega A, Rodriguez R, Barbosa-Morais NL, Ponder BAJ, et al. “Association of ESR1 gene tagging SNPs with breast cancer risk”. *Human Molecular Genetics*, 2009 Mar 15;**18**(6):1131-9

(23) Wilson MD*, Barbosa-Morais NL*, Schmidt D, Conboy CM, Vanes L, Tybulewicz VLJ, Fisher EMC, Tavaré S, Odom DT. “Species-specific transcription in mice carrying human chromosome 21”. *Science*, 2008 Oct 17;**322**(5900):434-438 (* equal contributions)

(22) Grosso AR, Gomes AQ, Barbosa-Morais NL, Caldeira S, Thorne NP, Grech G, von Lindern M, Carmo-Fonseca M. “Tissue-specific splicing factor gene expression signatures”. *Nucleic Acids Research*, 2008 Sep;**36**(15):4823-32

(21) Dunning MJ, Ritchie ME, Barbosa-Morais NL, Tavaré S, Lynch AG. “A first spike-in validation of the Illumina specific Variance-Stabilizing Transformation”. *BMC Research Notes*, 2008 Jun 4; **1**:18

(20) Palmer RD, Barbosa-Morais NL, Gooding EL, Muralidhar B, Thornton CM, Pett MR, Roberts I, Schneider DT, Thorne N, Tavaré S, Nicholson JC, Coleman N; On behalf of The Childrens Cancer and Leukaemia Group (CCLG). “Pediatric malignant germ cell tumours show characteristic transcriptome profiles”. *Cancer Research*, 2008 Jun 1;**68**(11):4239-47

(19) Dunning MJ, Barbosa-Morais NL, Lynch AG, Tavaré S, Ritchie ME. “Statistical issues in the analysis of Illumina data”. *BMC Bioinformatics*, 2008 Feb 6;**9**(1):85

(18) Driver K, Song S, Lesueur F, Ahmed S, Barbosa-Morais NL, Tyrer J, Ponder BAJ, Easton DF, Pharoah PDP, Dunning AM, for the SEARCH Team. “Association of single-nucleotide polymorphisms in the Cell Cycle genes with breast cancer in the British population”. *Carcinogenesis*, 2008 Feb;**29**(2):333-41

(17) Conboy CM, Spyrou C, Thorne NP, Wade EJ, Barbosa-Morais NL, Wilson MD, Bhattacharjee A, Young RA, Tavaré S, Lees JA, Odom DT. “Cell cycle genes are the evolutionarily conserved targets of the E2F4 Transcription Factor”. *PLoS ONE*. 2007 Oct 24;**2**(10):e1061

(16) Chin SF, Teschendorff AE, Marioni JC, Wang Y, Barbosa-Morais NL, Thorne NP, Costa JL, Pinder SE, van de Wiel MA, Green AR, Ellis IO, Porter PL, Tavaré S, Brenton JD, Ylstra B, Caldas C. “High-resolution array-CGH and expression profiling identifies a novel genomic subtype of ER negative breast cancer”. *Genome Biol*. 2007 Oct 9;**8**(10):R215

(15) Blenkiron C, Goldstein LD, Thorne NP, Spiteri I, Chin SF, Dunning MJ, Barbosa-Morais NL, Teschendorff AE, Green AR, Ellis IO, Tavaré S, Caldas C, Miska EA. “MicroRNA expression profiling of human breast cancer identifies new markers of tumour subtype”. *Genome Biol*. 2007 Oct 8;**8**(10):R214

(14) Massie CE, Adryan B, Barbosa-Morais NL, Lynch AG, Tran M, Neal DE, Mills IG. “Novel Androgen Receptor genomic targets reveal an interaction with the ETS1 transcription factor”. *EMBO Rep*. 2007 Sep;**8**(9):871-8

- (13) Muralidhar B, Goldstein LD, Ng G, Winder DM, Palmer RD, Gooding EL, Barbosa-Morais NL, Mukherjee G, Thorne NP, Roberts I, Pett MR, Coleman N. "Global microRNA profiles in cervical squamous cell carcinoma depend on Drosha expression levels". *J Pathol.* 2007 Aug;**212**(4):368-77
- (12) Gama-Carvalho M, Barbosa-Morais NL, Brodsky AS, Silver PA, Carmo-Fonseca M. "Genome wide identification of functionally distinct subsets of cellular mRNAs associated with two nucleocytoplasmic-shuttling mammalian splicing factors". *Genome Biol.* 2006 Nov 30;**7**(11):R113
- (11) Teschendorff AE, Naderi A, Barbosa-Morais NL, Pinder SE, Ellis IO, Aparicio S, Brenton JD, Caldas C. "A consensus prognostic gene expression classifier for ER positive breast cancer". *Genome Biol.* 2006 Oct 31;**7**(10):R101
- (10) Mollet I, Barbosa-Morais NL, Andrade J, Carmo-Fonseca M. "Diversity of human U2AF splicing factors". (Review) *FEBS J*, 2006 Nov;**273**(21):4807-16
- (9) Ibrahim AEK, Thorne NP, Baird K, Barbosa-Morais NL, Tavaré S, Collins VP, Wyllie AH, Arends MJ, Brenton JD. "MMASS: an optimised array-based method for assessing CpG island methylation". *Nucleic Acids Res.* 2006;**34**(20):e136
- (8) Chin SF, Wang Y, Thorne NP, Teschendorff AE, Pinder SE, Vias M, Naderi A, Roberts I, Barbosa-Morais NL, Garcia MJ, Iyer NG, Kranjac T, Robertson JF, Aparicio S, Tavaré S, Ellis I, Brenton JD, Caldas C. "Using array-CGH to define molecular portraits of primary breast cancer". *Oncogene*, 2007 Mar 22;**26**(13):1959-70
- (7) Naderi A, Teschendorff AE, Barbosa-Morais NL, Pinder SE, Green AR, Powe DG, Robertson JF, Aparicio S, Ellis IO, Brenton JD, Caldas C. "A gene-expression signature to predict survival in breast cancer across independent data sets". *Oncogene*, 2007 Mar 1;**26**(10):1507-16
- (6) Teschendorff AE, Naderi A, Barbosa-Morais NL, Caldas C. "PACK: Profile Analysis using Clustering and Kurtosis to find molecular classifiers in cancer". *Bioinformatics*, 2006 Sep 15;**22**(18):2269-75
- (5) Stamm S, Riethoven JJ, Le Texier V, Gopalakrishnan C, Kumanduri V, Tang Y, Barbosa-Morais NL, Thanaraj TA. "ASD: a bioinformatics resource on alternative splicing". *Nucleic Acids Res*, 2006 Jan 1;**34**(Database issue):D46-55
- (4)** Barbosa-Morais NL, Carmo-Fonseca M, Aparicio S. "Systematic genome-wide annotation of spliceosomal proteins reveals differential gene family expansion". *Genome Res*, 2006 Jan;**16**(1):66-77
- (3) Teschendorff AE, Wang Y, Barbosa-Morais NL, Brenton JD, Caldas C. "A variational Bayesian mixture modelling framework for cluster analysis of gene-expression data". *Bioinformatics*, 2005 Jul;**21**(13):3025-33
- (2) Pacheco TR, Gomes AQ, Barbosa-Morais NL, Benes V, Ansorge W, Wollerton M, Smith CW, Valcarcel J, Carmo-Fonseca M. "Diversity of vertebrate splicing factor U2AF³⁵: identification of alternatively spliced U2AF1 mRNAs". *J Biol Chem*, 2004 Jun 25;**279**(26):27039-49
- (1) Naderi A, Ahmed AA, Barbosa-Morais NL, Aparicio S, Brenton JD, Caldas C. "Expression microarray reproducibility is improved by optimising purification steps in RNA amplification and labelling". *BMC Genomics*, 2004 Jan 30;**5**(1):9

Book chapters:

Lynch AG, Smith ML, Dunning MJ, Cairns JM, Barbosa-Morais NL, Tavaré S. "beadarray, BASH and HULK - tools to increase the value of Illumina BeadArray experiments". In A. Gusnato, K.V. Mardia, & C.J. Fallaize (eds), *Statistical Tools for Challenges in Bioinformatics*, 2009 pp33-37. Leeds, Leeds University Press

Non-refereed Contributions:

Handbook of Circuit Theory and Fundamentals of Electronics
José Epifânio da Franca & Nuno Morais

Editorial and Refereeing

Associate Editor for *BMC Bioinformatics* (2010–) and *BMC Cancer* (2010–).

Reviewer for *Ageing Research Reviews*, *Biological Reviews*, *Briefings in Bioinformatics*, *BMC Bioinformatics*, *BMC Cancer*, *BMC Genomics*, *EMBO Journal*, *Genome Research*, *Integrative and Comparative Biology*, *International Reviews of Cell and Molecular Biology*, *Molecular Systems Biology*, *Molecular Therapy - Nucleic Acids*, *Nucleic Acids Research*, *PLoS Computational Biology*, *PLoS One* and *Trends in Genetics*.

Grant reviewer for the Medical Research Council, UK, The French National Research Agency (ANR), and the Israel Science Foundation's (ISF).

Supervision

Postdoc:

- . Joana Xavier, FCT Postdoctoral Fellow [co-supervisor]
Maia Lab, Centre for Biomedical Research, University of Algarve, Portugal 2015, November -
(main supervisor: Ana Teresa Maia)
- . Lina Gallego, UNESCO-L'Oreal International Fellow (For Women in Science Program)
Instituto de Medicina Molecular, Lisbon, Portugal 2015, July -
- . Teresa Maia
Instituto de Medicina Molecular, Lisbon, Portugal 2016, November - 2017, June

PhD supervisor:

- . Nuno Agostinho, FCT PhD Fellow
Instituto de Medicina Molecular, Lisbon, Portugal 2017, October -
- . Joel Indi, Graduate Programme Science for Development (PGCD) [co-supervisor]
Instituto de Medicina Molecular, Lisbon, Portugal 2017, June -
(main supervisor: Eduardo Eyra)
- . Mariana Ferreira, LisbonBioMed PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2017, March -
- . Marie Bordone, LisbonBioMed PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2015, March -
- . Marta Amorim, CAML PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2014, April - 2016, August
(co-supervised with Sérgio Dias and Pedro Castelo Branco)

PhD thesis committee member:

- . Saumya Dileep Kumar, Enlight-ten / Marie Sklodowska-Curie Project
Instituto de Medicina Molecular, Lisbon, Portugal 2016, May -
- . Helena Brigas, LisbonBioMed PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2016, March -
- . Vasco Conceição, LisbonBioMed PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2015, March -
- . Bruno Gonçalves, CAML PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2015, January -
- . Hugo Santos, BioSys PhD Program
Faculty of Sciences, University of Lisbon, Portugal 2014, October -
- . Fernando Martins, CAML PhD Program
Instituto de Medicina Molecular, Lisbon, Portugal 2013, December -

Masters thesis supervisor:

- . Nora Fresmann, Masters in Molecular Life Science
Humboldt University, Berlin, Germany 2018, February -
- . Bernardo Almeida, Masters in Oncobiology
University of Algarve, Portugal 2016, September - 2017, December
- . Mariana Ferreira, Masters in Biomedical Engineering
Instituto Superior Técnico, Lisbon, Portugal 2016, February - October
- . Ana Carolina Leote, Masters in Biological Engineering

Instituto Superior Técnico, Lisbon, Portugal *2016, February - October*
 . Teresa Maia, Masters in Bioinformatics and Computational Biology
 Faculty of Sciences, University of Lisbon, Portugal *2015, September - 2016, October*
 . Nuno Agostinho, Masters in Informatics
 Faculty of Sciences, University of Lisbon, Portugal *2015, September - 2016, October*
 . Bárbara Caravela, Masters in Biomedical Engineering
 Instituto Superior Técnico, Lisbon, Portugal *2015*
 (co-supervised with Susana Vinga and Alexandra Carvalho)
 . Pedro Faria, Masters in Biomedical Engineering
 Instituto Superior Técnico, Lisbon, Portugal *2014*
 (co-supervised with Susana Vinga and Alexandra Carvalho)

Other:

. Javier Tapial, visiting PhD student from CRG Barcelona
 Instituto de Medicina Molecular, Lisbon, Portugal *2018, April -*
 . Juan Carlos Gomez Verjan, visiting PhD student from UNAM Mexico
 Instituto de Medicina Molecular, Lisbon, Portugal *2016, April - July*
 . Mariana Ferreira, summer trainee (IST Masters in Biomedical Engineering)
 Instituto de Medicina Molecular, Lisbon, Portugal *2015, July - September*
 . Julie Addison, summer project of MPhil in Computational Biology
 University of Cambridge, UK *2007*

Teaching/training experience

Graduation programmes - Lecturer:

“Bioinformatics - Computational biology in the translation of cancer ‘omics”
 Masters in Biopharmaceutical Sciences and Integrated Masters in Pharmaceutical Sciences, Faculty of Pharmacy of the University of Lisbon, Portugal *2018, April 5*
 Masters in Biomedical Research, NOVA Medical School, Lisbon, Portugal *2018, January 5*

“Computational and disease transcriptomics”
 LisbonBioMed PhD Program, Instituto de Medicina Molecular, Portugal *2018, January 9*
 LisbonBioMed PhD Program, Instituto de Medicina Molecular, Portugal *2017, January 10*
 LisbonBioMed PhD Program, Instituto de Medicina Molecular, Portugal *2016, January 5*

“Biologia Computacional: splicing & cancro” *2016, October 29*
 Masters in Oncobiology, Faculty of Medicine of the University of Lisbon, Portugal

Bioinformatics Course (coordinator)
 PGCD, Graduate Program Science for Development, University of Cape Verde, Praia, Cape Verde *2016, February 22-26*

“RNA-Seq and disease transcriptomics”
 FCT PhD Programme - Medicines and Pharmaceutical Innovation (i3DU), Faculty of Pharmacy of the University of Lisbon, Portugal *2015, September 15*

“Analysis of Transcriptional Regulation and RNA Processing from RNA-Seq Data”
 Masters in Bioinformatics and Computational Biology, Faculty of Sciences of the University of Lisbon, Portugal *2015, July 23*
 LisbonBioMed PhD Program, Instituto de Medicina Molecular, Portugal *2015, January 7*
 Masters in Bioinformatics and Computational Biology, Faculty of Sciences of the University of Lisbon, Portugal *2014, July 17*
 PhD Program in BioEngineering - Cell Therapies & Regenerative Medicine, Instituto de Medicina Molecular, Portugal *2014, April 17*
 LisbonBioMed PhD Program, Instituto de Medicina Molecular, Portugal *2014, February 27*

R and Bioconductor Workshop (Computational Biology course)
 Masters in Biomedical Sciences, University of Algarve, Faro, Portugal *2015, April 21-22*

“Alternative splicing in evolution and cancer”
 PhD Program in Integrative Biology and Biomedicine, Instituto Gulbenkian de Ciência, Oeiras (Lisbon),
 Portugal *2015, January 30*

“The evolutionary landscape of alternative splicing in vertebrate species” *2013, July 25*
 Masters in Bioinformatics and Computational Biology, Faculty of Sciences of the University of Lisbon, Portugal

Functional Genomics course *2007/2008, 2008/2009, 2009/2010*
 MPhil in Computational Biology, DAMTP, University of Cambridge, UK

Systems Biology course - Engineering for Life Sciences *2009, 2010*
 Engineering Tripos, University of Cambridge, UK

Course in “Microarray Data Analysis using R and BioConductor” *2010, January 11-12*
 MIGPBIDM option Biotechnology, University of Poitiers, France

Bioinformatics module - Course in “Regulation of Gene Expression” *2009, April 13-17*
 GABBA Program (IBMC, Porto), Faculty of Sciences, University of Lisbon, Portugal

Course in “Analysis of DNA expression microarrays” *2009, March 11-13*
 PhD Programme in Computational Biology, Instituto Gulbenkian de Ciência, Oeiras (Lisbon), Portugal

“Splicing & Bioinformatics” module - Course in “mRNA biogenesis”
 Gulbenkian PhD Programme in Biomedicine, Instituto Gulbenkian de Ciência, Oeiras (Lisbon),
 Portugal *2003, October 14-17 & 2004, October 13-19*

“Splicing & Bioinformatics” module - Course in “Genetic Evolution” *2004, March 15-19*
 GABBA Program, Institute for Molecular and Cell Biology, Porto, Portugal

High-throughput Data Analysis Courses - Lecturer / Instructor:

NGS Data Analysis, RNAseq, ChIPseq *2016, March 30-31*
 Instituto Gulbenkian de Ciência, Oeiras (Lisbon), Portugal

X Summer Bioinformatics Course *2014, January 30-31*
 Ribeirão Preto Medical School, University of São Paulo, Brazil

Microarray Data Analysis using R and Bioconductor
 Instituto Gulbenkian de Ciência, Oeiras (Lisbon), Portugal *2010, September 6-10*
 Department of Genetics, University of Cambridge, UK *2010, February 24-26*
 Instituto Gulbenkian de Ciência, Oeiras (Lisbon), Portugal *2009, September 14-18*
 Department of Genetics, University of Cambridge, UK *2009, June 1-3*
 University of Oslo, Norway *2008, December 1-3*
 Instituto Gulbenkian de Ciência, Oeiras (Lisbon), Portugal *2008, September 29 - October 3*

Microarray and high throughput sequencing data analysis with Bioconductor *2010, February 2*
 European Bioinformatics Institute, Hinxton, Cambridgeshire, UK

EMBO Practical Course on Analysis and Informatics of Microarray Data *2009, October 12-17*
 European Bioinformatics Institute, Hinxton, Cambridgeshire, UK

Hands-on training at EBI - Transcriptomics *2009, January 19-22*
 European Bioinformatics Institute, Hinxton, Cambridgeshire, UK

Aveiro Molecular Genomics, advanced course on mRNA profiling using DNA microarrays *2008, July 21-25*
 University of Aveiro, Portugal

Hands-on training at EBI - Transcriptomics *2008, January 29*
 European Bioinformatics Institute, Hinxton, Cambridgeshire, UK

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| Introductory Course on Microarray Data Analysis Instituto Gulbenkian de Ciência, Oeiras (Lisbon), Portugal | 2007, October 15-19 |
| Four 3-day introductory microarray analysis courses Cancer Research Institute, Cambridge, UK | 2007, April - 2008, February |
| “R and Bioconductor” module - Microarray Data Analysis Course The Norwegian Microarray Consortium, University of Oslo, Norway | 2007, May 24 |
| “Microarray Technology and Bioinformatics” Summer School University of Camerino, Italy | 2006, August 28-September 1 |

Other:

| | |
|---|-----------|
| Teaching/research assistant - Circuit Theory & Fundamentals of Electronics Instituto Superior Técnico - Technical University of Lisbon, Portugal | 1999-2001 |
| Lecture on Physics and Chemistry to secondary school students Monserrate Secondary School, Viana do Castelo, Portugal | 1998 |

Invited Talks

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|---|---------------------------------------|
| <u>What transcriptomes tell us about disease</u> Department of Bioengineering, Instituto Superior Técnico, Lisbon, Portugal ITQB, Oeiras, Portugal | 2018, May 22 2018, February 6 |
| <u>Computational biology and what transcriptomes tell us about disease</u> Prossyga 2018, Porto, Portugal | 2018, May 12 |
| <u>Computational biology in the translation of cancer "omics"</u> ReTuBi Joint Summer School, Lisbon, Portugal | 2017, May 29 |
| <u>Computational biology, splicing, evolution and cancer</u> IHMT PhD students Retreat, Sesimbra, Portugal | 2017, May 28 |
| <u>Alternative splicing landscapes of ageing and neurodegeneration</u> CEDOC, Lisbon, Portugal | 2017, April 5 |
| <u>Computational Biology: splicing in evolution and disease</u> X Encontro Nacional dos Estudantes de Engenharia Biomédica, Coimbra, Portugal | 2017, March 3 |
| <u>Profiling alternative splicing in evolution and disease</u> International Institute of Molecular and Cell Biology in Warsaw, Poland 2016 Summer School in Computational Biology, University of Coimbra, Portugal | 2017, January 19 2016, September 7 |
| <u>My way into Computational Biology</u> Career Path Day, International Institute of Molecular and Cell Biology in Warsaw, Poland | 2017, January 19 |
| <u>Gene splicing in evolution and disease</u> Department of Physics, Instituto Superior Técnico, Lisbon, Portugal | 2016, November 2 |
| <u>Gene expression profile of Kidney Tumors</u> Novartis Oncology Advanced RCC Preceptorship, Lisbon, Portugal | 2016, October 27 |
| <u>Alternative splicing landscapes of cancer</u> Instituto Português de Oncologia, Lisbon, Portugal | 2016, October 12 |
| <u>Science & Creativity</u> RedeValor Conference, Rectory, University of Lisbon, Portugal | 2016, May 6 |

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| <u>Alternative splicing and the dynamics of genomes' coding potential</u> | |
| 1st BioSAM, Faculty of Sciences, University of Lisbon, Portugal | 2016, April 17 |
| <u>Biologia Computacional: splicing e cancro</u> | |
| IV Jornadas de Bioengenharia, Universidade da Beira Interior, Covilhã, Portugal | 2016, March 3 |
| <u>Computational Biology in the study of Alternative Splicing in Cancer</u> | |
| II Semana da Bioengenharia, Instituto Superior Técnico, Lisbon, Portugal | 2016, March 2 |
| <u>Biologia Computacional: Splicing, Evolução e Cancro</u> | |
| Conversas: Oncobiologia, Núcleo de Biologia Celular e Molecular, FCT NOVA, Portugal | 2015, December 2 |
| IX Jornadas de Engenharia Biológica, Instituto Superior Técnico, Lisbon, Portugal | 2014, March 18 |
| <u>Alternative splicing in evolution and cancer</u> | |
| ICVS - Life and Health Sciences Research Institute, Braga, Portugal | 2015, April 27 |
| <u>Alternative splicing landscapes in clear cell renal cell carcinomas reveal novel candidate markers for prognosis</u> | |
| The 4th Global Cancer Genomics Consortium Symposium, Kyoto University, Japan | 2014, November 14 |
| <u>Bioinformática: a nova era</u> | |
| III Jornadas de Bioengenharia, Universidade da Beira Interior, Covilhã, Portugal | 2014, May 28 |
| <u>Analysis of Transcriptional Regulation and RNA Processing from RNA-Seq Data</u> | |
| Instituto Gulbenkian de Ciência, Oeiras, Portugal | 2014, May 12 |
| Bioinformatics Open Days, University of Minho, Braga, Portugal | 2014, February 28 |
| Statistics Department, Campinas State University (UNICAMP), Brazil | 2014, February 3 |
| Computational Biology and Bioinformatics Seminars, IMM Lisbon, Portugal | 2013, October 30 |
| The 3rd Global Cancer Genomics Consortium Symposium: From Oncogenomics To Cancer Care - Teaching Workshop, IMM Lisbon, Portugal | 2013, September 18 |
| <u>Studying the evolution of tissue-specific alternative splicing using RNA-Seq data</u> | |
| Toronto Bioinformatics User Group Trainee Seminar, Canada | 2013, April 24 |
| <u>The evolutionary landscape of alternative splicing in vertebrate species</u> | |
| Weatherall Institute of Molecular Medicine, Oxford, UK | 2013, March 26 |
| Cheriton School of Computer Science, University of Waterloo, Canada | 2013, March 13 |
| Institute of Molecular Medicine, Lisbon, Portugal | 2012, December 20 |
| BioFIG Seminar - Faculty of Sciences, University of Lisbon, Portugal | 2012, December 19 |
| <u>Marie Curie International Fellowships - Case Study</u> | |
| Seminar Day - European Programmes for Higher Education and Research: Opportunities for Canadian Institutions, Toronto, Canada | 2011, November 8 |
| <u>The Illumina Code: are microarrays telling you the whole truth about cancer?</u> | |
| 5th CFGBC Symposium "From Array to Understanding Diseases", Ljubljana, Slovenia | 2010, June 16 |
| Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland | 2010, May 4 |
| 2nd Annual ENBDC Workshop, Weggis, Switzerland | 2010, April 23 |
| <u>Of trisomic mice and illuminated men (job talk)</u> | |
| Harvard Medical School, Boston, MA, USA | 2009, December 15 |
| Koshland Hall, U.C. Berkeley, CA, USA | 2009, December 9 |
| The Donnelly Centre, University of Toronto, Canada | 2009, December 4 |
| Whitehead Institute for Biomedical Research, Cambridge, MA, USA | 2009, December 3 |
| <u>Computational Epigenetics</u> | |
| Bioinformatics in Genomic and Proteomic Data Conference, Brno, Czech Republic | 2009, November 26 |
| <u>Determinants of tissue-specific transcriptional regulation in a transplanted chromosome</u> | |
| BioFIG/GABBA Workshop on Gene Expression: From Genes to Systems, Faculty of Sciences, University of Lisbon, Portugal | 2009, April 15 |
| University College London, UK | 2009, February 18 |

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| University of East Anglia, Norwich, UK Department of Biology, University of Aveiro, Portugal | 2009, February 6 2008, July 22 |
| <u>História(s) da Bioinformática</u> Engineering Faculty, Portuguese Catholic University, Lisbon, Portugal | 2008, October 2 |
| <u>Computational biology: microarrays and beyond</u> (replacing and on behalf of Simon Tavaré) Workshop “Microarrays in Clinical Oncology - promises and pitfalls”, Sociedade de Ciências Médicas, Lisbon, Portugal | 2007, June 30 |
| <u>Differential expansion of splicing factors families in eukaryotes</u> Medical Research Council - Biostatistics Unit, Cambridge, UK | 2006, March 15 |
| <u>Bioinformatics: sequence analysis and applications</u> Department of Histopathology and Cytology, University of Cambridge, UK | 2006, March 15 |
| <u>Splicing & Bioinformatics</u> FCUL Grad. Program in Biophysics and Biomedical Engineering, IMM, Lisbon, Portugal Theoretical Immunology Group, Instituto Gulbenkian de Ciência, Oeiras, Portugal ALGOS Group, Instituto de Engenharia de Sistemas e Computadores, Lisbon, Portugal | 2004, January 7 2002, December 12 2002, December 3 |
| <u>História(s) da Biofísica</u> 6ª Semana da Física (NFIST), Instituto Superior Técnico, Lisbon, Portugal | 2002, October 17 |

Participation in Meetings

Organization:

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| Workshop “Microarrays in Clinical Oncology - promises and pitfalls” (co-organizer) Sociedade de Ciências Médicas, Lisbon, Portugal | 2007, June 30 |
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Talks:

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| <u>What transcriptomes tell us about disease</u> EMBO Young Investigator Meeting, IMP Vienna, Austria | 2018, May 16 |
| <u>A bioinformatics application for the analysis and visualisation of alternative splicing in cancer</u> 4th Post-EURASNET Symposium, Poznan, Poland | 2016, September 28 |
| <u>Alternative splicing landscapes of disease</u> EMBO Young Scientists Forum, Lisbon, Portugal EMBO Young Investigator Meeting, EMBL Heidelberg, Germany | 2016, September 1 2016, May 13 |
| <u>Alternative splicing landscapes of cancer</u> EMBO YIP Cancer Meeting, Heraklion, Greece EMBO Young Investigator Meeting, PRBB Barcelona, Spain | 2016, June 28 2015, May 13 |
| <u>Species-specific differences in alternative splicing are primarily governed by evolutionary changes in cis-regulatory elements</u> ISMB/ECCB 2011 - Special Interest Group: Alternative Splicing, Austria Centre Vienna | 2011, July 15 |
| <u>Determinants of tissue-specific transcriptional regulation in a transplanted chromosome</u> First Portuguese Forum on Computational Biology FPBC-2008, Instituto Gulbenkian de Ciência, Lisbon, Portugal | 2008, July 12 |
| <u>A Gramática dos Genomas</u> 1 st Meeting in Biomedical Engineering IST/FML, U. Lisbon Medical School, Portugal | 2002, October 30 |
| <u>Heart Rate Variability: Latest News</u> XV International Conference for Physics Students, Zadar, Croatia | 2000, August 4-11 |

Breathing Physics

XIV International Conference for Physics Students, University of Helsinki, Finland 1999, August 14-20

Poster presentations:

CELF2 at the core of a prognostic alternative splicing signature in colorectal cancer

Gallego-Paez LM, Martins M, Barbosa-Morais NL

3rd ASPIC International Congress, Lisbon, Portugal

2018, May 10

CELF2 at the core of a prognostic alternative splicing signature in colorectal cancer

Gallego-Paez L, Martins M, Barbosa-Morais N

psychomics - A bioinformatics application for the quantification, analysis and visualisation of alternative splicing from large transcriptomic datasets

Saraiva-Agostinho N, Barbosa-Morais N

Forty Years of mRNA Splicing, Cold Spring Harbor Laboratory, NY, USA

2017, October 22-25

The evolutionary landscape of alternative splicing in vertebrate species

Barbosa-Morais NL, Irimia M, Pan Q, Xiong HY, Guerousov S, Lee LJ, Slobodeniuc V, Kutter C, Watt S, Çolak R, Kim TH, Misquitta-Ali CM, Wilson MD, Kim PM, Odom DT, Frey BJ, Blencowe BJ

RNA 2013 - The 18th Annual Meeting of the RNA Society, Davos, Switzerland

2013, June 11-16

Pacific Symposium of Biocomputing (PSB) 2013, The Big Island of Hawaii, USA

2013, January 3-7

ICSB - The 13th International Conference on Systems Biology, Toronto, Canada

2012, August 19-23

Species-specific differences in alternative splicing are primarily governed by evolutionary changes in cis-regulatory elements

Pan SQ, Slobodeniuc V, Barbosa-Morais NL, Wilson MD, Kutter C, Han H, Odom DT, Blencowe BJ

ISMB/ECCB 2011 - Special Interest Group: Alternative Splicing, Austria Centre Vienna 2011, July 15-16

Establishing determinants of species-specific alternative splicing using mice harboring human chromosome 21

Pan SQ, Slobodeniuc V, Barbosa-Morais NL, Wilson MD, Kutter C, Tybulewicz VLJ, Fisher EMC, Odom DT, Blencowe BJ

Workshop on transcriptional and post-transcriptional regulatory codes, The Drake Underground, Toronto, Canada

2011, May 20

2nd EURASNET Conference on Alternative Splicing, Granada, Spain

2011, February 28 - March 3

Re-annotation of microarray probes improves the interpretation of cancer gene expression data

Barbosa-Morais NL, Dunning MJ, Samarajiwa SA, Curtis C, Lynch AG, Tavaré S

RECOMB 2010, FIL, Lisbon, Portugal

2010, August 12-15

Cambridge Cancer Centre Symposium, CRUK Cambridge Research Institute, UK

2010, June 25

Cancer-omics: Multilevel interpretation of cancer genome data, CNIO, Madrid, Spain

2009, July 6-8

Tissue-specific transcription is directed by genome sequence in an aneuploid mouse strain carrying human chromosome 21

Wilson MD*, Barbosa-Morais NL*, Schmidt D, Conboy CM, Vanes L, Tybulewicz VLJ, Fisher EMC, Tavaré S, Odom DT

First Portuguese Forum on Computational Biology FPBC-2008, Instituto Gulbenkian de Ciência, Lisbon, Portugal

2008, July 10-12

Gene Expression Profiles of Pediatric Malignant Germ Cell Tumours

Palmer RD, Barbosa-Morais NL, Gooding EL, Muralidhar B, Thornton CM, Pett MR, Roberts I, Schneider DT, Thorne N, Tavaré S, Nicholson JC, Coleman N; On behalf of The Childrens Cancer and Leukaemia Group (CCLG)

Statistics for Biomolecular Data Integration and Modeling - Workshop, Centro Stefano Franscini, Ascona, Switzerland

2007, June 10-15

Resemblance between Teleost Gene Duplication and Mammalian Alternative Splicing

Barbosa-Morais NL, Aparício S

Symposium on Alternative Transcript Diversity, European Bioinformatics Institute, Hinxton, Cambridgeshire, UK

2004, November 22-23

Poster judging:

5th EMBO Meeting, Birmingham, United Kingdom

2015, September 5-8

Thesis jury membership

PhD, main examiner:

Babita Singh, Universitat Pompeu Fabra, Barcelona, Spain

2017, May 11

Margherita Francescato, Universidade do Porto, Portugal

2015, January 20

PhD, reserve member:

Marta Magdalena Kameniak, Autonoma University of Madrid, Spain

2014, April 29

Masters, main examiner:

Hugo Ambrósio, Universidade de Lisboa, Portugal

2017, December 4

Inês Faleiro, Universidade de Lisboa, Portugal

2017, October 18

João Diogo Pinto, Universidade de Lisboa, Portugal

2015, May 20

Ioana Posa, Universidade de Lisboa, Portugal

2015, January 12

Tomás Pires de Carvalho Gomes, Universidade de Lisboa, Portugal

2014, December 5

Other academic experience

Attendance of EMBO Laboratory Management Course (Leimen, Germany)

2016, July 12-15

Member of PAPS - Portuguese-American Post-graduate Society

. Member of the Executive Committee

July 2015 -

. Co-leader of the Alumni Chapter

July 2015 - April 2016

. Leader of the Toronto Chapter

Jan 2011 - May 2013

Member of the Toronto Bioinformatics User Group (TorBUG) Committee

2012-2013

Co-organizer of The Donnelly Centre Postdoctoral Fellows' seminar series and symposium

2012

Member of PARSUK - Portuguese Association of Researchers and Students in the UK

. Attendance of Science Communication Workshop, Oxford, UK

2010, May 8-9

. Co-organizer of LUSO 2007 - 1st Meeting of Portuguese Students and Researchers in the UK, Cambridge, UK

2007, June 9

Students' tutor, Degree in Biomedical Engineering - Instituto Superior Técnico

2001-2002