# TIAGO FLEMING OUTEIRO

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**WORK**
Instituto de Medicina Molecular
Cell and Molecular Neuroscience Unit
Av. Professor Egas Moniz
1649-028 Lisboa
Portugal

## EDUCATION

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| 4/99 – 7/04 | **Ph.D. in Molecular and Cell Biology**<br>Whitehead Institute for Biomedical Research, MIT, Cambridge, USA<br>University of Chicago (UC), Chicago, USA |
| 7/98-9/98 | **Teaching Training ("Curso de Formação de Formadores")**<br>Employment Institute (IEFP), Portugal |
| 9/94-9/98 | **B.S. in Biochemistry**<br>Faculty of Sciences – University of Porto, Porto, Portugal |

## RESEARCH AND PROFESSIONAL EXPERIENCE

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| 12/07 – present | **Auxiliar Professor,** Instituto de Fisiologia, Faculdade de Medicina da Universidade de Lisboa, Portugal |
| 5/07 – 7/08 | **Visiting Scientist**, Massachusetts General Hospital, Harvard Medical School, Boston, USA. |
| 5/07 – present | **Principal Investigator**, Institute of Molecular Medicine, University of Lisbon, Portugal |
| 11/05 | **Co-Founder,** BioEPI Clinical and Translational Research Center, Taguspark, Portugal |
| 6/04-5/07 | **Postdoctoral Research Fellow;** advisor Dr. Brad Hyman, MGH – Harvard University, USA |
| 6/04-9/04 | **Consultant and Research Scientist,** FoldRx Pharmaceuticals, Inc, Cambridge, USA<br>Ph.D. work was transferred to the start up company FoldRx Pharmaceuticals, Inc. |
| 4/99 – 8/04 | **Graduate Research;** advisor Dr. Susan Lindquist<br>The Whitehead Institute, MIT, Cambridge, USA<br>The University of Chicago, Chicago, USA |
| 11/98-4/99 | **Graduate Research**; advisor Prof. M. J. Saraiva<br>University of Porto/IBMC, Porto, Portugal |
| 2/98-9/98 | **Undergraduate Research;** advisor Prof. John Findlay<br>University of Leeds, Leeds, UK |
| 9/97–2/98 | **Research Assistant;**<br>Centro de Estudos da Paramiloidose, Hospital Geral de Santo Antonio, Porto, Portugal |

## HONORS AND AWARDS

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| 3/09 | **Junior Faculty Award,** AD/PD Meeting, Prague, Czech Republic |
| 12/08 | **EMBO Installation Grant,** EMBO |
| 7/08 | **Aging Research Prize,** Portuguese Society for Neuroscience and Pfizer |
| 3/08 | **Best Scientific Article in 2007,** Portuguese Society for Neuroscience |
| 8/07 | **Marie Curie International Reintegration Grant,** European Commission |
| 7/07 | **Research Talent Award from the Portuguese Government** |
| 7/07 | **Science Talent Award from the Portuguese Government** |
| 6/07 | **Research Grant** from the Michael J. Fox Foundation, USA. |
| 6/07 | **Research Award** from the Calouste Gulbenkian Foundation (FCG) |
| 7/05 | **Massachusetts Biomedical Research Corporation, Tosteson Award,** Postdoctoral Fellowship |
| 1/03 | **Scholarship** from the Calouste Gulbenkian Foundation (FCG) |
| 1/99 - 03 | **PhD Scholarship** from the Foundation for Science and Technology (Portugal) |
| 2/98 | **Erasmus Scholarship** from the European Union |

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| 5/03 | **Young Investigator Award**, Gordon Research Conference on Triplet Repeat Disorders |
| 5/01 | **Young Investigator Award**, Gordon Research Conference on Triplet Repeat Disorders |
| 11/00 | **Prize from ICBAS**, 1st Place award, 94-98 class at the Biomedical Institute, Porto, Portugal |
| 9/00 | **Prize from the Engineer Antonio de Almeida Foundation**, 1st Place award 94-98 class in Biochemistry, Porto, Portugal |

## PROFESSIONAL ACTIVITIES

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| May 2009 – present | Member of the Scientific Advisory Board for the European Huntington's Disease Network |
| July 2008 – present | Contributing Editor, European Journal of Neuroscience |
| 2007 – present | International Forum of Portuguese Researchers (FIIP) – Vice-President |
| 2007 | Expert evaluator – European Commission, Framework Program 7 |
| 2007 | Organizer of the PENS Summer School on: "Molecular Mechanisms in Neurodegeneration", Ofir, Portugal. |
| 2006 | Expert evaluator – European Commission, Framework Program 6 |
| 2006 | Organizer of FENS Symposium: "CAG Triplet Repeat Disorders", Vienna, Austria. |
| 2004 | Organizer of FEBS Course: "Neurodegeneration and Disease", Ofir, Portugal. |
| 9/02 – 9/03 | Organizer of the Boston Area Yeast Meeting, Boston, USA |
| 1/02 - present | Portuguese American Post-Graduate Association (PAPS) – President/Chairman<br>Co-organizer of IV, V, VI and VII Forum of PAPS. |
| 9/02 | Organizer and Participant University of Aveiro Center for Cell Biology Symposium - Novel Therapeutic Opportunities in Neurodegenerative Disease |
| 10/02 - 04 | Whitehead Institute Scientist – Partnership for Education with teachers from Massachusetts |
| 1/02 | Organizer - MIT European Career Fair (over 2500 participants) |
| 12/01 | Organizer and Participant - Science for the Non-scientist - MIT Museum |

## PUBLICATIONS

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|---|---|
| Miranda, HV, and Outeiro, TF | The Sour Side of Neurodegenerative Diseases: The Effects of Protein Glycation, The Journal of Pathology, in press. |
| Marques, O., Oliveira, RM., Moita, LF, and Outeiro, TF. | Sirtuins as a link between ageing and neurodegeneration, Neurodegenerative Diseases, in press. |
| da Costa G, Gomes R, Correia CF, Freire A, Monteiro E, Martins A, Barroso E, Coelho AV, Outeiro TF, Ponces Freire A, Cordeiro C. | Identification and quantitative analysis of human transthyretin variants in human serum by Fourier transform ion-cyclotron resonance mass spectrometry. Amyloid. 2009 Dec;16(4):201-207. |
| Ferreira, J. and Outeiro, TF | Current and Future Therapeutic Strategies for Parkinson's Disease, Curr Pharm Des. 2009 Sep 15. |
| Outeiro, TF, Klucken, J, Bercury, K, Tetzlaff, J, Putcha, P, Oliveira, LM, Quintas, A, McLean, PJ, and Hyman, BT | Dopamine-Induced Conformational Changes in Alpha-Synuclein, PLoS One. 2009 Sep 4;4(9):e6906. |
| Outeiro, TF | From Mad Cows to Neurotic Yeast: Novel Molecular Approaches to Understand Neurodegeneration.<br>Microsc Microanal. 2008 Sep;14 Suppl 3:105-6. |
| Mollenhauer B, Cullen V, Kahn I, Krastins B, Outeiro TF, Pepivani I, Ng J, Schulz-Schaeffer W, Kretzschmar HA, McLean PJ, Trenkwalder C, Sarracino DA, | Direct quantification of CSF alpha-synuclein by ELISA and first cross-sectional study in patients with neurodegeneration.<br>Exp Neurol. 2008 Jun 14. [Epub ahead of print] |

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| Vonsattel JP, Locascio JJ, El-Agnaf OM, Schlossmacher MG. | |
| Tetzlaff JE, Putcha P, Outeiro TF, Ivanov A, Berezovska O, Hyman BT, McLean PJ. | CHIP Targets Toxic {alpha}-Synuclein Oligomers for Degradation. J Biol Chem. 2008 Jun 27;283(26):17962-8. Epub 2008 Apr 24. |
| Outeiro, T.F., et al. | Formation of toxic oligomeric a-synuclein species in living cells, PloS ONE, 2008 Apr 2;3(4):e1867. |
| Outeiro, T.F. and Kazantsev, A. | Drug Targeting of α-Synuclein Oligomerization in Synucleinopathies, Perspectives in Medicinal Chemistry 2008:2 41-49 |
| Fleming, L., Giorgini, F. and Outeiro, T.F. | Yeast as a model to study human neurodegenerative disorders, Biotechnology J., 2008. Mar;3(3):325-38. |
| *Grammatopoulos TN, *Outeiro TF, Hyman BT, Standaert DG. | Angiotensin II protects against alpha-synuclein toxicity and reduces protein aggregation in vitro. Biochem Biophys Res Commun. 2007 Sep 21; [Epub ahead of print] |
| Outeiro, T.F., et al. | Sirtuin 2 inhibition protects against a-synuclein toxicity in Parkinson's disease models, Science. 2007 Jul 7;317(5837):516-9. |
| Outeiro, T.F., Grammatopoulos, TN, Altmann, S., Amore, A., Standaert, D.G., Hyman, B.T., Kazantsev, A.G. | Pharmacological Inhibition of PARP-1 Reduces Alpha-Synuclein- and MPP+-Induced Cytotoxicity in Parkinson's Disease In Vitro Models, BBRC, 2007, Jun 8;357(3):596-602. |
| Outeiro, T.F. and Tetzlaff, J. | Mechanisms of Disease II – Cellular Protein Quality Control, Seminars in Pediatric Neurology, 2007 Mar;14(1):15-25. |
| St. Martin, J, Klucken, J., Outeiro, T.F., Nguyen, P., Keller-McGandy, C., Cantuti-Castelvetri, I., Grammatopoulos, T., Standaert, D., McLean, P.J. and Hyman, B.T. | Selevtive Dopaminergic Neuron Loss and Upregulation of Chaperone Protein mRNA in an Adeno-Associated Viral Vector Model of Parkinson's Disease, J. Neurochem, 2007 Mar;100(6):1449-57. |
| Outeiro TF, Klucken J, Strathearn KE, Liu F, Nguyen P, Rochet JC, Hyman BT, McLean PJ. | Small heat shock proteins protect against alpha-synuclein-induced toxicity and aggregation. Biochem Biophys Res Commun. 2006 Dec 22;351(3):631-8. |
| Klucken, J., Outeiro, T.F., Nguyen, P., McLean, P.J. and Hyman, B.T. | Detection of novel intracellular a-synuclein oligomeric species by fluorescence lifetime imaging, FASEB J., FASEB J. 2006 Oct;20(12):2050-7 |
| Outeiro, T.F. | A bridge from Portugal to the States. Nature. 2006 Sep 7;443(7107):118. |
| Bodner, R., Outeiro, T.F., Altman, S., Maxwell, M.M., Cho, S. H., Hyman, B.T., McLean, P.J., Young, A.B., Housman, D. E. and Kazantsev, A. G. | Pharmacological promotion of inclusion formation: A therapeutic approach for Huntington's and Parkinson's disease, PNAS, 2006; 103 (11): 4246-4251 |
| Outeiro, T.F. and Giorgini, F. | Yeast as a drug discovery platform in Huntington's and Parkinson's diseases, Biotecnol. J, 2006: 1(3): 258-269 |
| Outeiro, T.F. and Muchowski, P.J. | Molecular genetics approaches in yeast to study amyloid diseases. J Mol Neurosci. 2004;23(1-2):49-60 |
| Rochet JC, Outeiro TF, Conway KA, Ding TT, Volles MJ, Lashuel HA, Bieganski RM, Lindquist SL, Lansbury PT | Interactions Among alpha-Synuclein, Dopamine, and Biomembranes: Some Clues for Understanding Neurodegeneration in Parkinson's Disease. J Mol Neurosci. 2004;23(1-2):23-34 |
| Derkatch, I., Uptain, S., Outeiro, T.F., Liebman, S. and Lindquist, S. | Effects of Q/N, polyQ and non-polyQ amyloids on the *de novo* formation of the [*PSI*$^+$] prion in yeast and aggregation of Sup35 *in vitro*, PNAS, 2004; 101(35) 12934-9. |
| Outeiro, T.F. and Lindquist | Yeast cells provide insight into alpha-synuclein biology and pathobiology. Science. 2003 Dec 5;302(5651):1772-5 |

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| Willingham, S, Outeiro, T.F., Devit, MJ, Lindquist, S and Muchowski, PJ | Yeast genes that enhance the toxicity of a mutant huntingtin fragment or alpha-synuclein. Science. 2003 Dec 5;302(5651):1769-72 |
| Resende, CG, Outeiro, T.F., Sands, L, Lindquist, S and Tuite, M | Prion protein gene polymorphisms in Saccharomyces cerevisiae. Mol Microbiol. 2003 Aug;49(4):1005-17 |

## BOOKS

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|---|---|
| Vaqueiro-Lopes, L. and Outeiro, T.F. | Synaptic dysfunction in Parkinson's disease: from protein misfolding to functional alterations, in press. |
| Marques, S.C. F., Pereira, C.M.F., Outeiro, T.F. | Epigenetics and Neurodegeneration: A Connection Overlooked, Novascience, in press. |
| Gitler, A. and Outeiro, T.F. | Unravelling the Molecular Basis of Parkinson's Disease Using Yeast Models, in press. |
| Outeiro, T.F., editor | Protein Misfolding in Biology and Disease, Research Signpost, Novascience in press. |
| Outeiro, T.F. and Kazantsev, A. | Therapeutic Intervention in the Neurotoxicty of Misfolded Proteins, in press. |
| Outeiro, T.F. and Hyman, B.T. | Protein Aggregation Disorders, *in* Neurobiology of Disease, 2006. |
| Singer, M., Outeiro, T.F. and Lindquist, S. | Thermotolerance, Metabolism and Development: The Many Flavors of Trehalose, *in* Food Biotechnology, 2005. |

## PATENTS

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| Outeiro, T.F., Lindquist, S., Labaudiniere, Fleming, J., R., Bulawa, C. | INHIBITION OF A-SYNUCLEIN TOXICITY. U.S. 60/787,113 |
| Outeiro, T. F., and Lindquist, S. | YEAST ECTOPICALLY EXPRESSING ABNORMALLY PROCESSED PROTEINS AND USES THEREFOR |
| Outeiro, T.F., Krobitsch, S. and Lindquist, S. | YEAST AS A MODEL SYSTEM FOR NEURODEGENERATIVE DISEASE |

## INVITED TALKS

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|---|---|
| July 15, 2009 | University of Ulm, Germany |
| July 13, 2009 | European Society for Neurochemistry, Leipzig, Germany |
| July 11, 2009 | Kopfklinic, Erlangen, Germany |
| June 4, 2009 | Amsterdam, The Netherlands |
| May 12, 2009 | Bilkent University, Turkey |
| March, 2009 | University of Leuven, Belgium |
| December 5, 2008 | University of Leicester, UK |
| November 2008 | Instituto de Tecnologia Química e Biológica, Lisbon, Portugal |
| September 2008 | EPFL, Lausanne, Switzerland |
| Febryary 27, 2008 | From Mad Cows to Neurotic Yeast: Novel Strategies to Understand Neurodegeneration. Faculdade de Ciências de Lisboa, Portugal |
| February 20, 2008 | Mad Cows, Neurotic Yeast, and Back to the Future. Fundação Calouste Gulbenkian |
| December 13, 2007 | Unraveling the molecular mechanisms of neurodegeneration: From cells to drugs, Uppsala University, Sweden |
| November 22, 2007 | Top Models: What are they teaching us about Parkinson's Disease. Neurodegenerative diseases: Science and the Mind. Faculty of Pharmacy, Lisbon, Portugal. |

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| November 19, 2007 | From Academia to Biotech: US and Portuguese Examples. Pharmaceutical Innovation: A New R&D Strategy in the EU. Viseu, Portugal. |
| October 26, 2007 | Applied Biology Forum. University of Minho, Braga, Portugal. |
| October 16, 2007 | Science and Technology in Portugal. Fórum Novas Fronteiras, Centro Cultural de Belém, Lisboa, Portugal. Promoted by and with the participation of the Prime Minister of Portugal. |

## POSTGRADUATE TEACHING

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| July 2009 | PENS Summer School, Gunzburg, Germany |
| March 2009 | ITQB PhD Program |
| February 2009 | Neurodegenerative Diseases Course, Gulbenkian PhD Program for Medical Doctors. |
| January 2009 | Protein Misfolding Course, GABBA PhD Program. |
| November 2008 | Protein Misfolding in Biology and Disease, Master's Program in Neurosciences, Faculty of Medicine, Lisbon, Portugal. |
| February 2008 | Secrets of the genome and biobanks of secrets, Center for Biomedical Law, University of Coimbra |
| January 2008 | PhD Program, University of Coimbra |
| December 2007 | Protein Misfolding in Synucleinopathies, Faculty of Sciences and Technology, Monte da Caparica, Portugal. |
| December 2007 | Protein Misfolding in Biology and Disease, Master's Program in Neurosciences, Faculty of Medicine, Lisbon, Portugal. |
| July 2007 | PENS Summer School, Ofir, Portugal. |
| July 2004 | FEBS Summer School, Ofir, Portugal. |