

**BIOGRAPHICAL SKETCH**

NAME Lewis, Patrick Alfryn	POSITION TITLE Senior Research Fellow
eRA COMMONS USER NAME	

## EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
University of Manchester, UK	BSc	2001	Biochemistry
University College London, UK	PhD	2005	Neurological Science

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**A. Positions and Honors**

## Positions and employment

1999-2000	Special project associate, Laboratory of Molecular Neurobiology, Mayo Clinic, Jacksonville FL
2001-2005	PhD Student, MRC Prion Unit, Institute of Neurology, University College London, London, UK
2005-2007	Visiting Fellow, Laboratory of Neurogenetics, National Institute on Aging, Bethesda MD
2007-	Senior Research Fellow, Department of Molecular Neuroscience, Institute of Neurology, University College London, London UK
2008-	Honorary Lecturer, University College London, London UK
2008-	Session Lecturer, Birkbeck College, London UK

## Other Experience and Professional Memberships

2005-	Member, Society for Neuroscience
2007-	Member, Biochemical Society
2008-	Member, Royal Institution

**B. Peer Reviewed Publications (selection from 38)**

Sum of citations: 1302 (*h*-index 16)

Researcher ID: [C-3674-2009](https://orcid.org/0000-0001-9451-2009)

- 1) **Lewis PA**, Perez-Tur J, Golde TE and Hardy J (2000) "The Presenilin C92S mutation increases A $\beta$  42 production" *Biochem. Biophys. Res. Comm.* **277**, 261-263
- 2) Amtul Z, **Lewis PA**, Piper S, Crook R, Baker M, Findlay K, Singleton A, Hogg M, Younkin L, Younkin SG, Hardy J, Hutton M, Boeve BF, Tang-Wai D and Golde TE (2001) "A presenilin 1 mutation associated with familial frontotemporal dementia inhibits g-secretase cleavage of APP and Notch" *Neurobiology of Disease* **9**: 269-273
- 3) **Lewis PA**, Piper S, Baker M, Onstead L, Hardy J, Wang R, MCGOWEN E and Golde TE (2001) "Expression of BRI-A $\beta$  fusion proteins: a novel means for specific high-level expression of A $\beta$  peptides" *Biochim Biophys Acta.* **1537**: 58-62
- 4) **Lewis PA**, Properzi F, Prodromidou K, Clarke AR, Collinge J and Jackson GS (2006) "Removal of the GPI Anchor From PRP<sup>Sc</sup> by Cathepsin D Does Not Reduce Prion Infectivity" *Biochemical Journal* **395**: 443-448
- 5) **Lewis PA**, Tattum H, Jones S, Bhelt D, Batchelor M, Clarke AR, Collinge J, and Jackson GS (2006) "The Codon 129 Polymorphism of the Human Prion Protein Controls Its Ability to Form Amyloid Fibrils" *Journal of General Virology* **87**: 2443-2449

- 6) Greggio E, Jain S, Kingsbury A, Bandopadhyay R, **Lewis PA**, Kaganovich A, van der Brug MP, Beilina A, Blackinton J, Thomas KJ, Ahmad R, Miller DW, Kesavapany S, Singleton A, Lees A, Harvey RJ, Harvey K, Cookson MR (2006) "Kinase activity is required for the toxic effects of mutant LRRK2/dardarin" *Neurobiology of Disease* **23**:329-341
- 7) Greggio E, **Lewis PA**, van der Brug MP, Ahmad R, Kaganovich A, Ding j, Beilina A, Baker AK, Cookson MR (2007) "Mutations in LRRK2/dardarin associated with Parkinson disease are more toxic than equivalent mutations in the homologous kinase LRRK1" *Journal of Neurochemistry* **102**: 93–102
- 8) **Lewis PA**, Greggio E, Beilina A, Jain S, Baker A and Cookson MR (2007) "The R1441C mutation of LRRK2 disrupts GTP hydrolysis" *Biochem. Biophys. Res. Comm* **357**: 668-71
- 9) Deng J, **Lewis PA**, Greggio E, Sluch E, Beilina A, Cookson MR (2008) "Structure of the ROC domain from the Parkinson's disease associated Leucine-rich repeat kinase 2 reveals a novel dimeric GTPase" *PNAS* **105**:1499-1504
- 10) **Lewis PA** (2009) "The ROCO proteins in health and disease" *Biol Cell* **101**: 183-91
- 11) Li Y, Dunn L, Greggio E, Krumm B, Jackson GS, Cookson MR, **Lewis PA** and Deng J (2009) "The R1441C mutation alters the folding properties of the ROC domain of LRRK2" *BBA – Molecular Basis of Disease* **12**: 1194-97
- 12) Plun-Favreau H, **Lewis PA**, Hardy J, Miguel-Martins L and Wood NW (2010) "Cancer and Neurodegeneration: between the devil and the deep blue sea" *PLOS Genetics* **12**: e1001257
- 13) Devine M, Kaganovich A, Ryten M, Mamais A, Trabzuni D, Manzoni C, McGoldrick P, Chan D, Dillman A, Zerle J, Horan S, Taanman JW, Hardy J, Marti-Masso JF, Healey D, Schapira A, Wolozin B, Bandopadhyay R, van der Brug M and **Lewis PA** (2011) "Pathogenic LRRK2 mutations do not alter gene expression in cell model systems or human brain tissue" *PLOS One* **6**: e22489.
- 14) Devine M, Ryten M, Vodicka P, Thomson AJ, Houlden H, Burdon T, Cavaleri F, Drummon NJ, Nagano M, Taanman JW, Schapira A, Gwinn K, Hardy J, **Lewis PA** and Kunath T (2011) "Parkinson's disease iPSCs with triplication of the  $\alpha$ -synuclein locus" *Nature Communications* **2**:440
- 15) **Lewis PA** and Manzoni C (2012) "LRRK2 and human disease: a complicated question or a question of complexes?" *Science Signaling* **5**: pe2
- 16) Patani R, **Lewis PA**, Trabzuni D, Proudfoot C, Wyllie DJA, Walker R, Smith C, Hardingham GE, Weale M, Hardy J, Chandran S and Ryten M (2012) "Investigating the utility of human embryonic stem cell-derived neurons to model ageing and neurodegenerative disease using whole genome gene expression and splicing analysis" *Journal of Neurochemistry* **122**: 738-751
- 17) Jebelli J, Dihanich S, Civiero L, Manzoni C, Greggio E and **Lewis PA** (2012) "GTP binding and intramolecular regulation by the ROC domain of DAPK1" *Scientific Reports* **2**: 695
- 18) **Lewis PA** (2012) "James Parkinson: the man behind the shaking palsy" *Journal of Parkinson's disease* **2**: 181-187

## **C. Research Support**

### Ongoing

Parkinson's UK Career Development Fellowship 2010-2013 £250,000  
Alzheimer's Society BUPA grant (Co-PI) 2010-2012 £113,000  
Michael J. Fox Foundation LRRK2 biology grant (PI) 2010-2013 \$874,168  
Michael J. Fox Foundation LRRK2 biology grant (PI) 2013-2014 \$124,934

### Completed

Brain Research Trust Senior Research Fellowship 2007-2010 £165,000  
Parkinson's disease society UK Innovation grant (PI) 2010-2011 £30,595  
Parkinson's disease society UK Innovation grant (PI) 2009-2010 £15,000  
MJF foundation (PI) RRIA grant 2008-2009 \$62,000  
UCL clinical research development committee (PI) 2009-2010 £19,853