University of Birmingham

Dr Wendy Leadbeater PhD, PGCertLTHE, BSc (Hons)

Senior Lecturer in Medical Sciences

Neurobiology

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About

Wendy Leadbeater is a senior lecturer in Medical Sciences, based in the School of Clinical and Experimental Medicine. She has a predominant teaching role and due to her interest in education is involved in pedagogical educational research with other members of the college. She has also published research papers in the field of neuroscience.

Qualifications

- Awarded School of Clinical and Experimental School Prize for Excellence in Teaching and Supporting Student Learning 2012
- Postgraduate Certificate in Learning and Teaching in Higher Education (PGCertLTHE) 2010
- Fellowship for Higher Education Academy 2010
- Awarded Prize of Excellence in PGCertLTHE Associate Module 2009
- PhD Neuroscience 1999
- BSc (Hons) Cell and Molecular Biology 1992

Biography

Wendy Leadbeater qualified with a first class BSc (Hons) in Cell and Molecular Biology from University of Essex in 1992. She went on to study for a PhD in Neuroscience at the University of Birmingham. Wendy worked for three years completing post-doctoral training in Canada in a molecular diabetes laboratory where she received a Canadian Institute of Health Research Fellowship.

After receiving a BBSRC post-doctoral fellowship Wendy continued to work in neural repair and regeneration in the Molecular Neuroscience Group at the University of Birmingham. During her post-doctoral fellowships, Wendy developed an interest in teaching and learning, completed the Associate Module in Teaching and Learning in HE and was awarded the prize of excellence for the PGCert.

Wendy was awarded a lectureship in Medical Sciences in 2008, and senior lecturer in 2012.

Wendy completed the full PGCertLTHE in 2010 and is now a teaching mentor on the new postgraduate certificate in academic practice. Wendy has been involved in widening participation on the A2B scheme and outreach activities at local schools.

Teaching

- Module co-ordinator for Biological Sciences 1 and 2 in BMedSc Biomedical Materials Science year 1, with responsibility to deliver the neuroscience teaching and assessment.
- Module co-ordinator for Health, Disease and Therapeutics 1-1 in Pharmacy, year 1.
- Deputy module co-ordinator for Neurons and Synapses MBChB year 1.
- Co-Lead for BMedSc Year 3 dissertations.
- Deputy module co-ordinator for BMedSc3 Neuroscience module with responsibility to deliver lectures, practical sessions and assessment.
- Tutor across teaching areas which include; cardiovascular, respiratory, renal, digestion, endocrinology, research methods and experimental design across the degree programmes; MBChB1 and 2, BMedSc1 and 2 and BDS1.
- Facilitator for Integrated Problems, MBChB1.
- Supervisor for BMedSc3, research student (dissertation).
- Action Learning Set Facilitator and assessor for Postgraduate Certificate in Academic Practice across the University.

Postgraduate supervision

- Wendy co-supervises three PhD students on collaborative projects with the dental school
- Supervisor for MRes programme, research student (dissertation)

Research

As part of the Molecular Neuroscience Group, the research focus is on the evaluation of strategies to deliver gene biotherapeutics to the injured central nervous system (CNS) to better understand the role in scarring and neural regeneration. Collaborative projects with the dental school have led to research on the use dental pulp stem cells as a cell therapy in ocular hypertension.

Wendy is also interested in learning and teaching scholarship and research.

Other activities

Member of:

- BMedSc Biomedical Materials Curriculum Development Committee
- BMedSc Biomedical Materials Exam Board
- MPharm Curriculum Development Committee
- CLAD Advisory Committee
- CLAD Board of Studies
- CLAD Programme Committee
- Physiological Society Teaching Special Interest Group

External lecturer for Coventry University

Publications

Leadbeater W, Shuttleworth T, Couperthwaite J and Nightingale KP (2013) Evaluating the use and impact of lecture recordings in undergraduates: Evidence for distinct approaches by different groups of students. *Computer and Education* 61:185-192

Leadbeater WE, Couperthwaite J, Balfe P and Nightingale KP (2013) Lecture recordings support student learning. Compendium of Effective Practice: 2nd Edition. Editors R Clark, J Andrew (Aston University) and E Thomas (HEA)

Baird A, Eliceiri B, Johanson C, Stopa E, **Leadbeater W,** Gonzalez AM (2011) Targeting of the choroid plexus-CSF brain nexus using phage peptides identified by phage display. Book chapter in Methods in Molecular Biology, edited by Su Nag. The Blood-Brain and Other Neural Barriers: Reviews and Protocols. Humana Press. Volume 686, part 5, 483-498

Podvin S, Gonzalez AM, Miller MC, Dang X, Botfield H, Donahue JE, Kurabi A, Boissaud-Cooke M, Rossi R, **Leadbeater WE,** Johanson CE, Coimbra R, Stopa EG. Eliceiri BP and Baird A (2011) ECRG-4 is a Choroid Plexus-Derived Injury Response Gene: Evidence for a Biphasic Response in Early and Late Brain Injury. *PLoS ONE* 6(9): e24609

Gonzalez AM, Podvin S, Lin SY, Miller MC, Botfield H, **Leadbeater WE**, Roberton A, Dang X, Knowling SE, Cardenas-Galindo E, Donahue JE, Stopa E, Johanson CE, Coimbra R, Eliceiri BP and Baird A (2011) Ecrg4 expression and its product augurin in the choroid plexus: impact on fetal brain development, cerebrospinal fluid homeostasis and neuroprogenitor cell response to CNS injury. *Fluids and barriers of the CNS* 8(1):6

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Leadbeater WE (2010) Supporting Final Year Undergraduates when Critically Reviewing Scientific Literature. Higher Education Academy. URL site: http://www.bioscience.heacademy.ac.uk/ftp/casestudies/linktr_WEL.pdf

Gonzalez AM, **Leadbeater, W.,** Podvin, S., Borloa, A., Sawada, R., Rayner, J., Sims, K., Terasaki, T., Johanson, C., Stopa, E., Eliceiri, B., Baird, A. **2010**. Epidermal Growth Factor Targeting of Bacteriophage to the choroid plexus for gene delivery to the Central Nervous System via Cerebrospinal Fluid. BRES-D-10-00945R1. Brain Research 1359, 1-13

Gonzalez, A.M., Taylor, W.M., Johanson, C.E., King, J.C., **Leadbeater, W.E.,** Duncan, J.A., Stopa, E.G., Baird, A. **2010**. Co-localisation and regulation of basic fibroblast growth factor and arginine vasopressin in neuroendocrine cells of the rat and human brain. Cerebrospinal Fluid Research 7:13 doi:10.1186/1743-8454-7-13

Douglas MR, Morrison KC, Jacques SJ, **Leadbeater WE,** Gonzalez AM, Berry M, Logan A, Ahmed Z (2009) Off-target effects of epidermal growth factor receptor antagonists mediate retinal ganglion cell disinhibited axon growth. *Brain* 132(Pt 11)3102-3121 doi:10.1093/brain/awp240

Gonzalez AM, Berlanga O, **Leadbeater WE,** Cooper-Charles L, Sims K, Logan A, Eliceiri B, Berry M, Baird A (2009) The deployment of adenovirus-containing gene activated matrices onto severed axons after CNS injury leads to transgene expression in target neuronal cell bodies. *Journal of Gene Medicine* 11:679-688

Gonzalez AM, Logaras N, Berry M, Turnbull J, Logan A (2006) Intracellular trafficking in neurons and glia of FGF-2, FGFR1 and heparin sulphate proteoglycans in the injured adult rat cerebral cortex. *Journal of Neurochemistry* 96(4):1189-1200

Ahmed Z, Dent RG, **Leadbeater WE,** Smith C, Berry M, Logan A (2005) Matrix metalloproteinases: degradation of the inhibitory environment of the transacted optic nerve and the scar by regenerating axons. *Molecular and Cellular Neuroscience* 28(1):64-78

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