

James R Tribble, PhD

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Career History

May 2018 - May 2019: **Postdoctor**, Karolinska Institutet, Sweden.

My research investigates neuronal metabolism and mitochondrial function in neurodegeneration, with a specific focus on glaucoma. I use tools including neuronal labelling, gene therapy, basic molecular biology, visual function testing and transcriptomic analysis.

Dec 2017 - May 2018. **Post-doctoral Research Associate**, Cardiff University, UK. Using BDNF to recover RGCs in experimental glaucoma

My research looked at the neuroprotective potential of BDNF to recover RGC dendrites, synapses and visual sensitivity following glaucomatous neurodegeneration.

Oct2015 - May 2018. **Post-doctoral Research Associate**, Cardiff University, UK. Retinal ganglion cell degeneration in human glaucoma: a connectomic approach.

My research used serial scanning electron microscopy of donor, human glaucoma and control tissue from which retinal ganglion cells were segmented and reconstructed. Synapses, mitochondria, autophagosomes, lysosomes are analysed. We show the first evidence of changes in these intracellular structures seen in human glaucoma.

Sept 2014: **Collaborative researcher**, The Jackson Laboratory, Maine, U.S.A

I undertook a collaborative study on experimental glaucoma with the Simon John Lab at JAX studying the effects of the complement system on retinal ganglion cell atrophy in experimental glaucoma.

Oct 2011 - Jan 2015. **Part time Lab demonstrator**, Cardiff University, UK

Education

2016 PhD in Visual Neuroscience and Molecular Biology, Cardiff University, UK

Thesis title: Retinal Ganglion cell morphological and functional changes in experimental glaucoma

Thesis Submission: 31/12/15

Thesis defence: 13/05/2016

My thesis looked at RGC degeneration in an experimental rat model of glaucoma. I explored changes to RGC dendritic morphology and potential therapeutic interventions including digestion of restrictive extracellular matrix and innate immune suppression.

2011 B.Sc Medical Pharmacology (hons) 2:1, Cardiff University, UK

Publications

1. Morgan JE, **Tribble JR**, Fergusson J, White N, Erchova I (2017) The optical detection of retinal ganglion cell damage. *Eye* 31(2), pp 1999-205 (DOI: [10.1038/eye.2016.290](https://doi.org/10.1038/eye.2016.290))
2. Williams PA*, **Tribble JR***, Cross SD, Pepper KW, MacNicoll KH, John JWM, Morgan JE, Howell GR (2016) Inhibition of the classical pathway of the complement cascade prevents early dendritic and synaptic degeneration in glaucoma *Molecular Neurodegeneration* 11:26. ([10.1186/s13024-016-0091-6](https://doi.org/10.1186/s13024-016-0091-6))
3. Morgan JE and **Tribble JR** (2015) Microbead models in glaucoma. *Experimental Eye Research* 141, pp. 9-14. (DOI: [10.1016/j.exer.2015.06.020](https://doi.org/10.1016/j.exer.2015.06.020))
4. **Tribble JR**, Cross SD, Samsel PA, Sengpiel F and Morgan JE (2014) A novel system for the classification of diseased retinal ganglion cells. *Visual Neuroscience* 31(6), pp. 373-380. (DOI:[10.1017/S0952523814000248](https://doi.org/10.1017/S0952523814000248))
5. Binley KE, Ng WS, **Tribble JR**, Song B and Morgan JE (2014) Sholl analysis: A quantitative comparison of semi-automated methods. *Journal of Neuroscience Methods* 225, pp. 65-70. (DOI: [10.1016/j.jneumeth.2014.01.017](https://doi.org/10.1016/j.jneumeth.2014.01.017))

*Equal author contribution

In preparation:

1. Tribble JR, Sengpiel F, Morgan JE. Structural and functional implications of perineuronal net disruption in experimental glaucoma
2. Tribble JR, Vasalaskaite A, Hassan S, Fautsch M, Sengpiel F, Morgan JE. Retinal ganglion cell dendritic and synaptic degeneration is an early feature of human glaucoma
3. Tribble JR, Kokkali E, Wilby A, Barde YA, Morgan JE. BDNF given post injury is protective to RGCs in experimental glaucoma.

Conference presentations

Local and National

2012 Cardiff Institute of Tissue Engineering and Repair annual meeting, Poster presentation

2013 Bristol Young Vision Researchers' Colloquium, Oral presentation

2017 Oxford Ophthalmological congress, Oral presentation

International

ARVO 2014, Poster presentation. **James R. Tribble**, Stephen D. Cross, Paulina A. Samsel, Frank Sengpiel and James E. Morgan (2014) A novel system for the classification of diseased retinal ganglion cells.

2016 Optic nerve conference, Oral presentation

2017 Optic nerve conference, Oral presentation

Invited speaker

International Society for Eye Research (ISER) 2018

2018 Optic nerve conference

Committee work

Feb 2016-May 2018: **Cardiff University Animal Welfare and Research Panel**

Jan 2016-May 2018: **School of Optometry and Vision Science PG Research Panel**

Nov 2015-May 2018: **School of Optometry and Vision Science Research Committee**

Referees

Assistant Professor Pete Williams, Assistant Professor in Medical Sciences, Karolinska Institutet

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