

BIOGRAPHICAL SKETCH

CURRICULUM VITAE:	Marian Humphries
OFFICE ADDRESS	Ocular Genetics Unit, Smurfit Institute of Genetics Trinity College Dublin
DEGREES	MSc, Trinity College Dublin 1993. Phd, University of Szeged, 2000
POSTS	Research Assistant, The Queen's University of Belfast, 1979-1983. Research Assistant, Trinity College Dublin, 1983-2000. Senior Research Fellow, Trinity College Dublin, 2000-to date

CURRENT MEMBERSHIPS

Irish Society of Human Genetics, American Society of Human Genetics, Association for Research in Vision and Ophthalmology (ARVO), Trinity College Neurosciences Institute (TCIN), All-Ireland Retinal Researchers Network, Irish Network of Neuronal Stem-cell Investigators, European Vision Institute, Panel Member of Scientific and Medical Advisory Board of Retina International.

RESEARCH INTERESTS

Major interests have included genetics of blistering skin disorders and hereditary retinal diseases.

PUBLICATIONS

1. Humphries P, Barton D, McKay AM, Humphries MM, Carritt B. Isolation of a polymorphic DNA segment unique to human chromosome 7 by molecular cloning of hybrid cell DNA. *Mol. Gen. Genet.*, 190(1):143-9, 1983.
2. Humphries P, MacCabe AP, Spencer RA, Humphries MM, Pearson C. Structural and transcriptional properties associated with a member of a new family of conserved short dispersed repeated elements in human DNA. *Gene*, 39(2-3):255-61, 1985.
3. Humphries P, Russell SE, McWilliam P, McQuaid S, Pearson C, Humphries MM. Observations on the structure of two human 7SK pseudogenes and on homologous transcripts in vertebrate species. *Biochem. J.*, 245(1):281-4, 1987.
4. Daiger SP, Humphries MM, Giesenschlag N, Sharp EM, McWilliam P, Farrar GJ, Bradley DG, McConnell DJ, Kenna P, Sparkes RS, Spence MA, Heckenlively JR and Humphries P. Linkage analysis of human chromosome 4: exclusion of autosomal dominant retinitis pigmentosa and detection of new linkage groups. *Cytogenet.. Cell Genet.*, 50, 181-187, 1989.
5. Bradley D, Farrar GJ, Sharp EM, Kenna P, Humphries MM, McConnell DJ, Daiger SP, McWilliam P and Humphries P. Autosomal dominant retinitis pigmentosa: exclusion of the gene from the short arm of chromosome 1, including the region around the Rhesus locus. *Am. J. Hum. Genet.*, 44,570-576, 1989.
6. Farrar GJ, McWilliam P, Sharp EM, Kenna P, Bradley DG, Humphries MM, McConnell DJ and Humphries P. Autosomal dominant retinitis pigmentosa: exclusion of a gene from extensive regions of chromosomes 6, 13, 20 and 21. *Genomics*, 5, 619-622, 1989.
7. McWilliam P, Farrar GJ, Kenna, P, Bradley DG, Humphries MM, Sharp EM,

- McConnell DJ, Lawler M, Sheils D, Stephens K, Daiger SP and Humphries P. Autosomal dominant retinitis pigmentosa: localization of an adRP gene to the long arm of chromosome 3. *Genomics*, 5, 612-619, 1989.
8. Humphries M, Nagayoshi T, Sheils D, Humphries P, Uitto J. Human nidogen gene: identification of multiple RFLP and exclusion as candidate gene in a family with epidermolysis bullosa (EBS2) with evidence for linkage to chromosome 1. *J. Invest. Dermatol.*, 95(5):568-70, 1990.
 9. Humphries MM, Sheils D, Lawler M, Farrar GJ, McWilliam P, Kenna P, Bradley DG, Sharp EM, Gaffney EF, Young M, Uitto J and Humphries P. Epidermolysis bullosa: evidence for linkage to genetic markers on Chromosome 1 in a family with the autosomal dominant simplex form. *Genomics*, 7, 377-381, 1990.
 10. Farrar GJ, McWilliam P, Bradley DG, Kenna P, Sharp EM, Humphries MM, Lawler M, Eiberg H, Conneally MP, Trofatter JA and Humphries P. Autosomal dominant retinitis pigmentosa: linkage to rhodopsin and evidence for genetic heterogeneity. *Genomics*, 8, 35-40, 1990.
 11. Kumar-Singh R, Bradley DG, Kenna P, Farrar GJ, Lawler M, Humphries MM, Sharp E, Jordan SA, McWilliam P and Humphries P. Autosomal dominant retinitis pigmentosa (RP4): A new multi-allelic marker genetically linked to the disease locus. *Hum. Genet.*, 86, 502-504, 1990.
 12. Farrar GJ, Kenna P, Jordan S, Kumar-Singh R, Humphries MM, Sharp EM, Sheils D and Humphries P. A 3 base-pair deletion in the peripherin gene in one form of retinitis pigmentosa. *Nature*, 354, 478-480, 1991.
 13. Farrar GJ, Kenna P, Redmond R, McWilliam P, Bradley DG, Humphries MM, Sharp EM, Inglehearn C, Bashir R, Jay M, Watty A, Ludwig M, Schinzel A, Sammans C, Gal A, Bhattacharya S and Humphries P. Autosomal dominant retinitis pigmentosa (RP4): absence of the rhodopsin codon 23 proline->histidine transversion in pedigrees of European origin. *Am. J. Hum. Genet.*, 47, 941-945, 1991.
 14. Farrar GJ, Kenna P, Redmond R, McWilliam P, Bradley DG, Humphries MM, Sharp EM, Fishman G, Marchese C, Fusi L, Dufier JL, Abitbol M and Humphries P. Autosomal dominant retinitis pigmentosa (RP4): analysis of mutations within the rhodopsin gene. *Retinitis Pigmentosa: Advances in Clinical and Genetic Research*. (Pbl. CRC Press. Florida: Eds. Humphries P. Bhattacharya S and Bird A), 1991.
 15. McWilliam P, Jordan S, Kenna P, Humphries MM, Kumar-Singh R, Sharp EM and Humphries P. Progress in the localization of a late-onset adRP gene. *Retinal Degenerations*. (Pbl. CRC Press. Florida: Eds. Hollyfield. Anderson and LaVail) 369-373, 1991.
 16. Farrar GJ, Kenna P, Redmond R, Sheils D, McWilliam P, Humphries MM, Sharp EM, Jordan SA, Kumar-Singh R and Humphries P. Autosomal dominant retinitis pigmentosa: a mutation in codon 178 of the rhodopsin gene in an adRP family of Celtic origin. *Genomics*, 11, 1170-1171, 1991.
 17. Farrar GJ, Jordan SA, Kenna P, Humphries MM, Kumar-Singh R, McWilliam P, Allamand Y Sharp EM and Humphries P. Autosomal Dominant retinitis pigmentosa: localization of a disease gene (RP6) to the short arm of chromosome 6. *Genomics*, 11, 870-874, 1991.
 18. Jordan SA, Farrar GJ, Kenna P, Kumar-Singh R, Humphries MM, Allamand V, Sharp EM and Humphries P. Autosomal dominant retinitis pigmentosa (adRP; RP6): Co-segregation of RP6 and the peripherin-RDS locus in a late onset family of Irish origin. *Am. J. Hum. Genet.*, 50, 634-639, 1992.
 19. Farrar GJ, Kenna P, Jordan SA, Kumar-Singh R, Humphries MM, Sharp EM, Sheils D and Humphries P. Autosomal dominant retinitis pigmentosa: A novel mutation at the peripherin/RDS locus in the original 6p-linked pedigree. *Genomics*, 14, 805-807, 1992.
 20. Humphries MM, Sheils DM, Jordan SA, Farrar GJ, Kumar-Singh R and Humphries P. Alu polymorphism in the human type I Keratin (KRT14) gene. *Hum. Mol. Genet.*, 1 (6), 453, 1992.
 21. Humphries MM, Sheils D, Young M, Farrar GJ and Humphries P. Genetic linkage analysis in a pedigree with autosomal dominant simplex epidermolysis Bullosa. *J. Invest. Dermatol.* 98 (3), 397, 1992.

22. Humphries MM, Sheils DM, Farrar GJ, Kumar-Singh R, Kenna PF, Mansergh FC, Jordan SA, Young M, Humphries P. A mutation (Met-->Arg) in the type I keratin (K14) gene responsible for autosomal dominant epidermolysis bullosa simplex. *Hum. Mutat.*, 2(1):37-42, 1993.
23. Farrar GJ, Findlay JBC, Kumar-Singh R, Kenna P, Humphries MM, Sharp E and Humphries P. Autosomal dominant retinitis pigmentosa: A novel mutation in the rhodopsin gene in the original 3q linked family. *Hum. Mol. Genet.*, 9, 769-771, 1993.
24. Jordan SA, Farrar GJ, Kenna P, Humphries MM, Sheils D, Kumar-Singh R, Sharp EM, Soriano N, Ayuso C, Benitez J and Humphries P. Localisation of an autosomal dominant retinitis pigmentosa gene to chromosome 7q. *Nature Genetics*, 4, 54-57, 1993.
25. Farrar GJ, Jordan SA, Kumar-Singh R, Inglehearn CF, Gal A, Gregory C, Al-Magthteh M, Kenna PF, Humphries MM, Sharp EM, Sheils D, Gunge S, Hargrave PA, Denton MJ, Schwinger E, Bhattacharya SS and Humphries P. Extensive Genetic Heterogeneity in Autosomal Dominant Retinitis Pigmentosa. *Retinal Degeneration*, Plenum Press, New York, 1993 (Eds. Hollyfield et al), 63-77, 1993.
26. Mansergh FC, Kenna PF, Rudolph G, Meitinger T, Farrar GJ, Kumar-Singh R, Scorer J, Hally AM, Mynett-Johnson L, Humphries MM, Kiang S and Humphries P. Evidence for genetic heterogeneity in Best's Vitelliform Macular Dystrophy. *J. Med. Genet.*, 32, 855-858, 1995.
27. Humphries MM, Mansergh FC, Kiang AS, Jordan SA, Sheils DM, Martin MJ, Farrar GJ, Kenna PF, Young MM, Humphries P. Three keratin gene mutations account for the majority of dominant simplex epidermolysis bullosa cases within the population of Ireland. *Hum. Mutat.*, 8(1):57-63, 1996.
28. Humphries MM, Rancourt D, Farrar GJ, Kenna P, Hazel M, Bush RA, Sieving PA, Sheils DM, McNally N, Creighton P, Erven A, Boros A, Gulya K, Capecchi MR and Humphries P. Retinopathy induced in mice by targeted disruption of the rhodopsin gene. *Nature Genetics*, 15, 216-219, 1997. News and views article by Gabriel Travis in same edition of *Nature Genetics*, pgs. 116-117.
29. al-Jandal N, Farrar GJ, Kiang AS, Humphries MM, Bannon N, Findlay JBC, Humphries P and Kenna PF. A Novel Mutation within the Rhodopsin Gene (Thr-94-Ile) Causing Autosomal Dominant Congenital Stationary Night Blindness. *Hum. Mutat.* 13, 75-81, 1999.
30. McNally N, Kenna P, Humphries MM, Hobson AH, Khan NN, Bush RA, Sieving PA, Humphries P and Farrar GJ. Structural and functional rescue of murine rod photoreceptors by human rhodopsin transgene. *Hum. Mol. Genet.*, 8, 1309-1312, 1999.
31. Mansergh FC, Millington-Ward S, Kennan A, Kiang A-S, Humphries MM, Farrar GJ, Humphries P and Kenna PF. Retinitis pigmentosa and progressive sensorineural hearing loss caused by a C12258A mutation in the mitochondrial MTT2 gene. *Am. J. of Hum. Genet.*, 64, 971-985, 1999.
32. Hobson A, Humphries MM, Donnelly MA, Cotter T, Tuohy G, Kenna P, Farrar GJ and Humphries P. Apoptotic photoreceptor death in the rhodopsin knockout mouse in the presence and absence of c-fos. *Exp. Eye Res.*, 71, 247-254, 2000.
33. Humphries MM, Kiang S, McNally N, Donovan M, Sieving PA, Bush RA, Machida S, Cotter T, Hobson A, Farrar GJ, Humphries P and Kenna P. Comparative structural and functional analysis of photoreceptor neurones of Rho^{-/-} mouse reveal increased survival on C57BL/6J in comparison to 129Sv genetic background. *Vis. Neurosci.*, 18, 437-443, 2001.
34. Kennan A, Aherne A, Palfi A, Humphries MM, Stitt A, Simpson D, Demtroder K, Orntoft T, Ayuso C, Kenna PF, Farrar GJ and Humphries P. Identification of an IMPDH1 mutation in autosomal dominant retinitis pigmentosa (RP10) revealed following comparative microarray analysis of transcripts derived from retinas of wild-type and Rho^{-/-} mice. *Hum. Mol. Genet.*, 2002 11:5, 547-558.
35. McNally N, Kenna P, Rancourt D, Ahmed T, Stitt A, Colledge W, Llyod D, O'Neill B, Humphries MM, Humphries P and Farrar GJ. Dominant retinopathy induced in mice by targeted single base deletion at codon 307 of the rds-pheripherin gene. *Hum. Mol. Genet.*, 2002, 11:9, 1005-1016.

36. Keegan D, Kenna PF, Humphries MM, Humphries P, Flitcroft DI, Coffey PJ, Lund RD and Lawrence JM. (2002). Transplantation of syngeneic schwann cells to the retina of the rhodopsin knockout (Rho^{-/-}) mouse. *Invest. Ophthalmol. Vis. Sci.*, 2003, 44:8, 3526-3532.
37. Aherne A, Kennan A, Kenna PF, McNally N, Lloyd DG, Alberts IL, Kaing A-S, Humphries MM, Ayuso C, Engel PC, Gu JJ, Mitchell BS, Farrar GJ and Humphries P. On the molecular pathology of neurodegeneration in IMPDH1-based retinitis pigmentosa. *Hum. Mol. Genet.*, 2004, 13:6, 641-650.
38. Campbell M, Humphries MM, Kennan A, Kenna PF, Humphries P and Brankin B. Aberrant Retinal Tight Junction and Adherens junction protein expression in an animal model of autosomal recessive retinitis pigmentosa: The Rho (-/-) mouse. *Exp. Eye Res.*, 2006, 83(3), 484-492.
39. O'Reilly M, Palfi A, Chadderton N, Millington-Ward S, Ader M, Cronin T, Tuohy T, Auricchio A, Hildinger M, Tivnan A, McNally N, Humphries MM, Kiang AS, Humphries P, Kenna PF, Farrar GJ. RNA interference-mediated suppression and replacement of human rhodopsin in vivo. *Am. J. Hum. Genet.*, 2007 Jul;81(1):127-35.
40. Campbell, M, Humphries MM, Kenna PF, Humphries P, Brankin B. Altered expression and interaction of adherens junction proteins in the developing OLM of the Rho(-/-) mouse. *Exp. Eye Res.*, 2007, 85(5):714-20.
41. O'Reilly M, Millington-Ward S, Palfi A, Chadderton N, Cronin T, McNally N, Humphries MM, Humphries P, Kenna PF, Farrar GJ. A transgenic mouse model for gene therapy of rhodopsin-linked Retinitis Pigmentosa. *Vision Res.* 2008, 48(3):386-91.
42. Tam LC, Kiang AS, Kennan A, Kenna PF, Chadderton N, Ader M, Palfi A, Aherne A, Campbell M, Reynolds A, McKee A, Humphries MM, Farrar GJ, Humphries P. Therapeutic benefit derived from RNAi-mediated ablation of IMPDH1 transcripts in a murine model of autosomal dominant retinitis pigmentosa (RP10). *Hum. Mol. Genet.*, 2008, Apr 4 [Epub ahead of print].