WILLIAM DAVID RICHARDSON FLS FMedSci FRS Curriculum Vitae October 2023

Born 18th August, 1951 in Belfast, Northern Ireland (UK citizen).

education

1970-1973	University of Manchester. BSc (Physics) 1st class honours
1973-1977	King's College London. PhD (Biophysics) April 1978

post-doctoral

1978-1981	Visiting Fellow, Laboratory of Molecular Genetics, National Institute for Child Health and Human Development National Institutes of Health, Bethesda, Maryland, USA
1981-1982	Visiting Associate, National Institutes of Health, USA
1982-1985	Staff Scientist, Division of Biochemistry, National Institute for Medical Research, London
1985-1990	"New Blood" Lecturer in Molecular Genetics, Dept of Biology, UCL
1990-1993	Reader in Biology
1993-present	Professor of Biology
1994-1999	Group Leader, MRC Laboratory for Molecular Cell Biology, UCL
1999-present	Head, Laboratory for Developmental Genetics Wolfson Institute for Biomedical Research, UCL
2001-2007	Head of Department of Biology, UCL
2012-2016	Director, Wolfson Institute for Biomedical Research, UCL

contact address:

Wolfson Institute for Biomedical Research
Cruciform Building
University College London
Gower Street, London WC1E 6BT

tel: +44 (0)20 7679 6729
w.richardson@ucl.ac.uk

Orcid id: https://orcid.org/0000-0001-7261-2485

Researcher id: http://www.researcherid.com/rid/C-1762-2008

Honours, marks of esteem

2008	Fellow of the Linnean Society of London FLS
2010	Fellow of the Academy of Medical Sciences FMedSci
2011-2016	Advanced Grant, "Ideas Program" of the European Research Council
2013-2023	Wellcome Trust Senior Investigator
2012	Co-Chair/ Organizer, Gordon Research Conference on Myelin, Lucca, Italy
2013	Gail F Beach Lecture, Miami Project to Cure Paralysis, University of Miami
2013	Fellow of the Royal Society FRS
2013	Japan Society for the Promotion of Science (JSPS) Invitation Fellowship
2014	Steve Pfeiffer Memorial Lecture, University of Connecticut Health Center
2019	Invited speaker, Nobel Mini-Symposium "The dark side of the brain: myelinating glia in the central and peripheral nervous system."

Grants and Awards (as principal applicant unless otherwise stated)

1986-1988	Nuffield Foundation Small Grant "Nuclear targetting of proteins that regulate development"	£4,000
1986-1989	MRC project grant G8519079N "Isolation of cDNA clones encoding an astrocyte-derived growth factor"	£121,585
1988-1989	Supplement to above	£6,470
1989-1990	MRC project grant G8901594N "Dominant-negative variants of PDGF to probe its function in the developing CNS"	£9,970
1989-1992	MRC project grant G8908035N "Studies of PDGF and its receptors in the developing rat CNS"	£183,375
1990-1993	MS Society project grant M/U/2-1/90 "Molecular markers for cells of the oligodendrocyte-type-2 astrocyte lineage	£158,090
1992-1993	Supplement to above	£9,380
1993-1994	Supplement to above	£14,262
1990-1993	Wellcome Prize Studentship (H. Mudhar) "Ablation of Muller glial cells in the retinae of transgenic mice"	£44,866

Grants and Awards (continued)

1992-1993	MRC project grant G9203898N "Studies of FGF and its receptors on cells of the oligodendrocyte lineage"	£24,975
1992-1995	MRC project grant G9211238N (with E. Collarini) "Temporal and spatial regulation of oligodendrocyte development in the rat CNS"	£300,150
1993-1996	MRC project grant G9307837N (with N. Pringle) "Regulation of gene expression and cell fate in the dorsoventral axis of the neural tube"	£296,034
1994-1997	MS Society project grant 0307/U45494 "The role of PDGF in proliferation and migration of oligodendrocyte progenitor cells in vivo"	£196,876
1995-1998	MRC project grant G9517832N "Glial cell growth control in transgenic mice"	£373,837
1996-1999	MRC project grant G9609453N "Relationships between motor neurons and oligodendroglia"	£219, 600
1997-2002	MRC Programme grant G9708005 "Glial cell specification and growth control" with Hazel Smith (UCL)	£1, 501, 300
1998-2001	Wellcome Trust Veterinary Fellowship 050636 "The role of polypeptide growth factors in development and regeneration of myelin: a transgenic approach" (Rachel Woodruff)	£147, 670
1999-2000	MRC Innovation Award "Molecular components of a neuron-glial fate switch in the ventral neural tube"	£50, 000
2000-2002	Supplement to MRC Programme G9708005 (Time lapse microscope)	£46, 040
2000-2003	EU Quality of Life and Management of Living Resources Shared Cost RTD award "Consortium on Specification and Migration of Oligodendrocytes" (COSMO) QLRT-1999-31556	£122, 000
2000-2003	EU Quality of Life and Management of Living Resources Shared Cost RTD Award "Stem cells and stem cell-based therapies" (EUROSTEM) QLRT-1999-31224	£124, 000
2000-2004	Wellcome Trust Research Career Development Fellowship G059629 "Molecular basis of pattern formation in the developing vasculature" (Marcus Fruttiger)	£429, 000
2002-2004	EU Marie Curie Fellowship HPMF-CT-2002-01634 (with Francoise Jamen) "Genetic control of neuron-glial fate switching in the embryonic neural tube"	£80, 000

Grants and Awards (continued)

2002-2005	MRC Cooperative Group on "Neuronal-Glial Interactions" with Steve Wilson, Rhona Mirsky, Kris Jessen, Jonathan Clarke, John Parnavelas, Hazel Smith (all UCL)	status only
2002-2005	MRC Component Grant G0001190 "Developmental genetics of myelinating glia in Zebrafish" with Hazel Smith (principal applicant), Rhona Mirsky, Kris Jessen (all UCL)	£360, 090
2002-2005	Wellcome Prize Studentship (Matthew Fogarty) "Studies of neurogenesis in the mouse spinal cord and telencephalon: a transgenic approach"	£40, 785
2002-2006	Wellcome Trust Research Career Development Fellowship G065974 "Genetics of valproate resistance" (Robin Williams)	£491, 892
2002-2007	Wellcome Trust Thematic Programme GR066745RP "Functional genomics of stem cells and their progeny" with David Beach (principal applicant), Chris Boshoff, Georgy Koentges, David Jones, Bernard Buxton (all UCL), Roger Pedersen (Cambridge U)	£5, 119, 123
2002-2007	MRC Programme Grant G9708005 (renewal) "Neural stem cells and neuroglial lineages in the central nervous system" with Hazel Smith, Nicoletta Kessaris (UCL)	£1, 605, 877
2003-2006	Wellcome Prize Studentship (Nina Callard) "Time-lapse microscopy of cultured neural stem cells"	£34, 000
2005	Royal Society short-term overseas visit to Instituto de Neurociencias d'Alicante, Universidad Miguel Hernández, Spain	£2, 750
2006-2009	Royal Society USA/Canada Fellowship "The effects of ageing on stem and progenitor cells of the mammalian brain" (Ian McKenzie)	£246, 489
2007-2012	Wellcome Trust Programme GR080513 "Diversity and functions of CNS glia: a combined transgenic and electrophysiology approach." (with David Attwell, UCL)	£1, 262, 728
2008-2013	National Institutes of Health R01NS059893 "Cellular and genetic origins of astrocytes" with David Rowitch (UCSF) (principal applicant), Charles D Stiles (Harvard Med Sch) and Ben Barres (Stanford U)	$691,560
2008-2011	MRC/ Alzheimer's Society Joint Collaborative Career Development Award in Stem Cell Research. "Diversity in the adult neural stem cell population: a potential resource for neural repair after stroke." (Kaylene Young)	£330, 000

Grants and Awards (continued)

2008-2011	Wellcome Trust Project Grant WT084299MF "Oligodendrocyte lineage (OLIG) genes in development and disease" (with Huiliang Li)	£525, 692
2008-2013	MRC Programme Grant G0800575 (FEC) "Stem and progenitor cells of the postnatal CNS" with Nicoletta Kessaris (UCL)	£1, 874, 629
2010-2013	Wellcome Prize Studentship (Eleni Kougioumtzidou) "Control of proliferation and differentiation of NG2 cells in the developing and adult brain"	£28,298
2011-2014	Wellcome Prize Studentship (Alex Sinclair-Wilson) "Neuron-glial fate switching in the developing CNS and in cultured stem cells"	£31,882
2012-2015	BBSRC Research Grant BB/J006602/1 "Histone arginine methylation and the control of neural stem cell proliferation and differentiation"	£493,585
2012-2017	European Research Council Advanced Grant "Ideas" Programme 293544 "MOTOGLIA: axoglial synapses, adult myelination and motor skills learning"	€2.47M
2012-2014	EMBO ALTF 18-2012 Long-term Fellowship (to Sarah Jolly) EMBOCOFUND2010, GA-2010-267146	£53,673
2013-2019	Wellcome Trust Senior Investigator Award WT100269MA "Transcriptional control of CNS myelination in development and maturity"	£1.95M
2015-2020	Wellcome Trust Multi-User Equipment Grant "The Dynamic Cell: A High-Speed High-Resolution Microscopy Platform for Biomedical Imaging" with Steve Wilson (principal applicant) and 10 others at UCL	£290,000
2016-2021	Wellcome Trust Strategic Award 108726/Z/15/Z "Functional neuromics of the cerebral cortex" with Kenneth Harris (principal applicant) and co-applicants Matteo Carandini, Michael Häusser, Nicoletta Kessaris (all UCL), Peter Somogyi (Oxford U), Jens Hjerling-Leffler, Mats Nilsson, Sten Linnarsson (Karolinska) (total award £4.4M)	£293,000
2019-2022	BBSRC Research Grant BB/S008934/1 "Control of oligodendrocyte development by OLIG2 and chromatin remodelling complexes" (with Huiliang Li, co-applicant)	£505,623
2019-2023	Wellcome Trust Investigator Award 214286/Z/18/Z "Adaptive myelination in learning and memory"	£1.3M
2019-2024	Sanming Project SZSM201911003 "UCL William Richardson Neuroscience Team" between Sun Yat-sen University, Shenzhen and UCL (total award ~£1.35M)	£303k

PhD student training		funding (first destination)
Yi Jiang	2019-	Overseas, self- funding *(current)*
Lawrence Best	2015-2020	Rosetree Trust *(NHS, completing clinical training)*
Alexander Sinclair-Wilson	2011-2015	Wellcome Trust *(Postdoc - Sonja Garel, Paris)*
Paul Andrew	2012-2015	MRC, part-time *(technician, Sheffield U)*
Eleni Kougioumtzidou	2010-2014	Wellcome Trust *(Researcher - AstraZeneca, Goteborg)*
Konstantina Psachoulia	2007-2010	MRC *(Postdoc – Howard Fine, Natl Cancer Inst, NIH)*
Leanne Rivers	2004-2009	BBSRC-CASE with Eisai Research Labs *(MRC Grants Admin, Neuroscience)*
Nina Callard	2003-2008	Wellcome Trust *(Researcher, Cancer Research UK)*
Raquel Taveira-Marques	2002-2008	Portuguese Fundação para a Ciência e a Tecnologia
Palma Iannarelli	2002-2014	MRC, part-time *(U Barcelona)*
Matthew Fogarty	2002-2005	Wellcome Trust *(UK Government, Dept of Health)*
Ana Mora	2001-2006	BBSRC-CASE with Glaxo SmithKline
Lisbeth Flores-Garcia	2000-2007	Mexican Office of Technology: CONACYT *(Postdoc – Bruce Hamilton UCSD)*
Heloise West	1999-2003	MRC *(MRC Head Office, Intellectual property)*
Paul van Heyningen	1997-2001	MRC *(UK Government, Dept of the Environment)*
Tao Sun	1996-1999	MRC *(Postdoc - David Rowitch, Harvard Med School)*
Anita Hall	1995-1999	MRC *(Postdoc - Patrizia Salinas, KCL, London)*
Andrew Calver	1992-1999	MRC, part-time *(Staff Scientist, Glaxo SmithKline)*
Wei-Ping Yu	1992-1995	Royal Society China Exchange Studentship *(Staff Scientist, Inst for Dev Biol, Singapore)*
Georgina Stevens	1992-1995	MRC *(Scientific publishing)*
Hardeep Mudhar	1991-1994	Wellcome Trust *(Clinical practice, ophthalmic surgery)*
Richard Pollock	1989-1992	MRC *(Postdoc - Chris Henderson, Montpelier)*
Nigel Pringle	1987-1992	HEFCE, part-time *(Postdoc - my lab at UCL)*
Colin Hodgkinson	1986-1990	MRC *(Postdoc - Heinz Arnheiter, NIH)*

Advising, consulting, editing

1999 -2003	MRC Neuroscience and Mental Health grants committee
2002 -2004	Wellcome Trust International Biomedicine Panel
2003 -2004	MRC Cross-Board Group
2003 -2007	MRC Neuroscience and Mental Health Board
2003 -2008	Scientific Advisory Board, Eisai Research London
2004 -2005	MRC visiting subcommittees: MRC Clinical Sciences Centre, London - quinquennial review of Molecular, Cell and Developmental Biology; NIMR, London - quinquennial review of Neuroscience; University of Cardiff - application Centre Grant in stem cell biology; Centre for Developmental Neurobiology, King's College London - quinquennial review
2005 -2015	Scientific Advisory Board (Fachbeirat), Max Planck Institute for Experimental Medicine, Göttingen
2000 -2009	Editorial Board, *Journal of Developmental Neuroscience*
2000 -2012	Editorial Board, *Molecular and Cellular Neuroscience*
2008 -2017	Associate Editor, *BioMed Central Neuroscience*
2009 -2021	Scientific Advisory Board, CRICM (Brain and Spinal Cord Institute), Hôpital Pitié-Salpêtrière, Paris
2010 -2015	Scientific Advisor, Gunma University Tenure-track Program, Maebashi, Japan
2013 -2019	Editorial Board, *Development* (Company of Biologists, Cambridge U)
2014 -	Editorial Board, *Brain Plasticity* (IOS Press, open access)
2015-2023	Editorial Board, *Glia* (Wiley Periodicals Inc)
2015 -2018	Royal Society Sectional Committee 8 (Anatomy, Physiology, Neurosciences)
2015-2021	Royal Society Newton Advanced Fellowship panel

Recent invited presentations

May 2016 Session Chair and speaker, Gordon Research Conference on Myelin, Lucca, Italy

Oct 2016 NIH Neuroscience Seminar Series, Bethesda MD, USA

Nov 2016 The Swammerdam Lecture, Amsterdam Neurosciences Graduate School

Dec 2016 Organizing committee and speaker, Cold Spring Harbor Asia meeting on "Glia: new insights into their function and dysfunction", Suzhou, China

May 2017 ICM (Brain and Spinal Cord Institute), Hôpital Pitié-Salpêtrière, Paris

Nov 2017 Department of Genetics, Harvard Medical School, Boston

Nov 2017 International Symposium on Neural Regeneration, Asilomar, CA, USA

Nov 2017 MRC Centre for Developmental Neurobiology, King's College London

Mar 2018 Session Chair, Gordon Research Conference on Myelin, Ventura, CA, USA

Sep 2018 Cambridge International Stem Cell Symposium, Cambridge, UK

July 2019 European Meeting on Glial Cells in Health and Disease, Porto, Portugal.

Aug 2019 International Society for Neurochemistry Satellite meeting on Myelin. Quebec, Canada.

Oct 2019 Nobel mini-symposium, “The dark side of the brain: myelinating glia in the central and peripheral nervous system.” Stockholm, Sweden.

Jun 2021 Multiple Sclerosis Virtual Masterclass 2021, Queen’s University Belfast, online

Dec 2021 Department of Neurology, UCSF, online

Jun 2022 Sigrid Jusélius Foundation, “Neuronal plasticity in brain disorders and their treatment.” Helsinki, Finland.

Aug 2022 International Society for Neurochemistry/ Asian-Pacific Society for Neurochemistry, Honolulu.

April 2023 Cold Spring Harbor Asia (CSHA) meeting on “Novel insights into glia function and dysfunction”, Awaji Island, Japan

Mar 2024 Speaker, Gordon Research Conference on Myelin, Ventura, CA, USA

Publications

Web of Science: h-index 78, >22,900 lifetime citations (excluding self-citations). >400 citations/year in each of the past 30 years (>1000/year since 2016). 64 articles cited ≥100 times.
Google Scholar: h-index 89, >36,000 citations

1. Richardson, W.D., and Davies, H.G. (1980). Quantitative observations on the kinetics and mechanisms of binding of electron stains to thin sections through hen erythrocytes. *J. Cell Sci.* 46, 253-278.

2. Richardson, W.D., Carter, B.J., and Westphal, H. (1980). Vero cells injected with adenovirus type-2 mRNA produce authentic polypeptide patterns: early mRNA promotes growth of adenovirus-associated virus. *Proc. Natl. Acad. Sci. USA* 77, 931-935.

3. Richardson, W.D., and Westphal, H. (1981). A cascade of adenovirus early functions is required for expression of adeno-associated virus. *Cell* 27, 133-141.

4. Richardson, W.D., and Westphal, H. (1983). Adenovirus early gene regulation and the adeno-associated virus helper effect. *Curr. Topics Microbiol. Immunol.* 109, 147-165.

5. Richardson, W.D., and Westphal, H. (1984). Requirement for either early region 1a or early region 1b adenovirus gene products in the helper effect for adeno-associated virus. *J. Virol.* 51, 404-410.

6. Richardson, W.D., and Anderson, C.W. (1984). Translation of adenovirus 2 late mRNAs microinjected into cultured African green monkey kidney cells. *J. Virol.* 51, 559-562.

7. Kalderon, D.D., Richardson, W.D., Markham, A.F., and Smith, A.E. (1984). Sequence requirements for nuclear location of simian virus 40 large-T antigen. *Nature* 311, 33-38.

8. Kalderon, D.D., Roberts, B.L., Richardson, W.D., and Smith, A.E. (1984). A short amino acid sequence able to specify nuclear location. *Cell* 39, 499-509.

9. Paucha, E., Kalderon, D., Richardson, W.D., Harvey, R.W., and Smith, A.E. (1985). The abnormal location of cytoplasmic SV40 large T is not caused by failure to bind to DNA or to p53. *EMBO J.* 4, 3235-3240.

10. Smith, A.E., Kalderon, D.D., Roberts, B.L., Colledge, W.H., Edge, M., Markham, A.F., Paucha, E., Gillett, P. and Richardson, W.D. (1985). The nuclear location signal. *Proc. R. Soc. Lond. B* 226, 43-58.

11. Richardson, W.D., Roberts, B.L. and Smith, A.E. (1986). Nuclear location signals in polyoma virus large-T. *Cell* 44, 77-85.

12. Roberts, B.L., Richardson, W.D., Kalderon, D.D., Cheng, S.H., Markland, W. and Smith, A.E. (1986). Amino acid sequences able to confer nuclear location. In: Nucleocytoplasmic Transport. R. Peters and M. Trendelenberg, eds. (Berlin, Heidelberg: Springer Verlag) pp 185-198.

13. Colledge, W.H., Richardson, W.D., Edge, M.D. and Smith, A.E. (1986). Extensive mutagenesis of the nuclear location signal of simian virus 40 large-T antigen. *Mol. Cell. Biol.* 6, 4136-4139.

14. Roberts, B.L., Richardson, W.D. and Smith, A.E. (1987). The effect of protein context on nuclear location signal function. *Cell* 50, 465-475.

Publications (continued)

15. Ballotti, R., Nielsen, F.C., Pringle, N., Kowalski, A., Richardson, W.D., Van Obberghen, E. and Gammeltoft, S.(1987). Insulin-like growth factor I in cultured rat astrocytes: expression of the gene and receptor tyrosine kinase. *EMBO J.* 6, 3633-3639.

16. Richardson, W.D., Mills, A.D., Dilworth, S.M., Laskey, R.A., and Dingwall, C. (1988). Nuclear protein migration involves two steps: rapid binding at the nuclear envelope followed by slower translocation through nuclear pores. *Cell* 52, 655-664.

17. Richardson, W.D., Pringle, N., Moseley, M.J., Westermark, B. and Dubois-Dalcq, M. (1988). A role for platelet-derived growth factor in normal gliogenesis in the central nervous system. *Cell* 53, 309-319.

18. Raff, M.C., Lillien, L., Richardson, W.D., Burne, J.F. and Noble, M.D. (1988). Astrocyte-derived PDGF drives the clock that times oligodendrocyte development in culture. *Nature* 333, 562-565.

19. Dingwall, C., Robbins, J., Dilworth, S.M., Roberts, B. and Richardson, W.D. (1988). The nucleoplasmin nuclear location signal is larger and more complex than that of SV40 large T antigen. *J. Cell Biol.* 107, 841-849.

20. Richardson, W.D. (1988). Introducing proteins into cultured animal cells. *J. Cell Sci.* 91, 319-322.

21. Pringle, N., Collarini, E.J., Mosley, M.J., Heldin, C.-H., Westermark, B and Richardson, W.D. (1989). PDGF A chain homodimers drive proliferation of bipotential (O-2A) glial progenitor cells in the developing rat optic nerve. *EMBO J.* 8, 1049-1056.

22. Hart, I.K., Richardson, W.D., Heldin, C.-H., Westermark, B. and Raff, M.C. (1989). PDGF receptors on cells of the oligodendrocyte-type-2 astrocyte (O-2A) cell lineage. *Development* 105, 595-603.

23. Hart, I.K, Richardson, W.D., Bolsover, S.R. and Raff, M.C. (1989) PDGF and intracellular signalling in the timing of oligodendrocyte differentiation. *J. Cell Biol.* 109, 3411-3417.

24. Hart,I.K., Collarini,E.J., Bolsover, S.R., Raff, M.C. and Richardson, W.D. (1989). Platelet-derived growth factor and its receptors in central nervous system gliogenesis. In: Cellular and Molecular Biology of Myelination. G. Jeserich, H.H. Althaus and T.V. Waehneldt, eds. (Springer-Verlag; Berlin, Heidelberg, New York) pp 293-310.

25. Richardson, W.D. (1990). Growth control in the developing central nervous system. *MRC News* 46, 6-7.

26. Eccleston, P.A., Collarini, E.J., Jessen, K.R., Mirsky, R. and Richardson, W.D. (1990). Schwann cells secrete a PDGF-like factor: evidence for an autocrine growth mechanism involving PDGF. *Eur. J. Neurosci*. 2, 985-992.

27. Richardson, W.D., Raff, M.C. and Noble, M. (1990). The oligodendrocyte-type-2-astrocyte lineage. *Semin. Neurosci.* 2, 445-454.

28. Raff, M.C., Hart, I.K., Richardson, W.D. and Lillien, L.E. (1990). An analysis of the cell-cell interactions that control the proliferation and differentiation of a bipotential glial progenitor cell in culture. *CSH Symp. Quant. Biol*. 55, 235-238.

29. Richardson, W.D. (1991). PDGF in neurons. *Curr. Biol*. 1, 162-164.

Publications (continued)

30. Collarini, E.J., Pringle, N., Mudhar, H., Stevens, G., Kuhn, R., Monuki, E.S., Lemke, G. and Richardson, W.D. (1991). Growth factors and transcription factors in oligodendrocyte development. *J. Cell Sci. Suppl*. 15, 117-123.

31. Pringle, N., Collarini, E.J., Mudhar, H., and Richardson, W.D. (1991). Platelet-derived growth factor in central nervous system gliogenesis. *Annals NY Acad. Sci*. 633, 160-168.

32. Richardson, W.D. (1992). Transgenic mice in neurobiology. In: Transgenic Animals. G. Kollias and F. Grosveld, eds. (Academic Press: London, New York), pp 169-194.

33. Collarini, E.J. and Richardson, W.D. (1992). Growth factors for myelinating glial cells in the central and peripheral nervous systems. In: Neurotrophic Factors. G. Fallon and S. Loughlin, eds. (Academic Press; New York), pp 489-507.

34. Pringle, N., Mudhar, H., Collarini, E.J. and Richardson, W.D. (1992). PDGF receptors in the CNS: during late neurogenesis, expression of PDGF alpha receptor appears to be restricted to glial cells of the oligodendrocyte lineage. *Development* 115, 535-552.

35. Barres, B.A., Hart, I.K., Coles, H.S.R., Burne, J.F., Voyvodic, J.T., Richardson, W.D., and Raff, M.C. (1992). Cell death and control of cell survival in the oligodendrocyte lineage. *Cell* 70, 31-46.

36. Barres, B.A., Hart, I.K., Coles, H.S.R., Burne, J.F., Voyvodic, J.T., Richardson, W.D., and Raff, M.C. (1992). Cell death in the oligodendrocyte lineage. *J. Neurobiol.* 23, 1221-1230.

37. Collarini, E.J., Kuhn, R., Marshall, C.J., Monuki, E.S., Lemke, G. and Richardson, W.D. (1992). Down-regulation of the POU transcription factor SCIP is an early event in oligodendrocyte differentiation in vitro. *Development* 116, 193-200.

38. Pollock, R.A., and Richardson, W.D. (1992). The alternative-splice isoforms of the PDGF A-chain differ in their ability to bind to the extracellular matrix and to heparin in vitro. *Growth Factors* 7, 267-279.

39. Hart, I.K., Richardson, W.D., and Raff. M.C. (1992). PDGF increases the expression of Fos and Jun in newly-formed oligodendrocytes that have become resistant to the mitogenic effect of PDGF. *Glia* 6, 310-313.

40. Pringle, N.P., and Richardson, W.D. (1993). A singularity of PDGF alpha receptor expression in the dorsoventral axis of the neural tube may define the origin of the oligodendrocyte lineage. *Development* 117, 525-533.

41. Mudhar, H.S., Pollock, R.A., Wang, C., Stiles, C., and Richardson, W.D. (1993). PDGF and its receptors in the developing rodent retina and optic nerve. *Development* 118, 539-552.

42. Ninkina, N.N., Stevens, G.E.M., Wood, J.S., and Richardson,W.D. (1993). A novel Brn3-like POU transcription factor expressed in subsets of rat sensory and spinal cord neurons. *Nucleic Acids Res.* 21, 3175-3182.

43. Yu, W.-P., Collarini, E.J., Pringle, N.P. and Richardson, W.D. (1994). Embryonic expression of myelin genes: evidence for a focal source of oligodendrocyte precursors in the ventricular zone of the neural tube. *Neuron* 12, 1353-1362.

Publications (continued)

44. Richardson, W.D., Pringle, N.P., Yu, W.-P., Collarini, E.J. and Hall, A.C. (1995). Embryonic origin and early development of oligodendrocytes. In: Glial Cell Development. K.R. Jessen and W.D. Richardson, eds. (Bios Scientific Publishers; Oxford), pp53-70.

45. Jessen, K.R. and Richardson, W.D. (1995). (editors) Glial Cell Development, (Bios Scientific Publishers, Oxford). (reviewed by R.H. Miller in *Trends Neurosci.* 19, 368-369, 1996.)

46. Pringle, N.P., Yu, W.-P., Guthrie, S., Roelink, H., Lumsden, A., Peterson, A.C. and Richardson, W.D. (1996). Determination of neuroepithelial cell fate: induction of the oligodendrocyte lineage by ventral midline cells and Sonic hedgehog. *Dev. Biol*. 177, 30-42.

47. Fruttiger, M., Calver, A.R., Krüger, W., Mudhar, H.S., Michalovich, D., Takakura, N., Nishikawa, S.-I. and Richardson, W.D. (1996). PDGF mediates a neuron-astrocyte interaction in the developing retina. *Neuron* 17, 1117-1131.

48. Hall, A.C., Giese, N.A. and Richardson, W.D. (1996). Spinal cord oligodendrocytes develop from ventrally-derived progenitor cells that express PDGF alpha-receptors. *Development* 122, 4085-4094.

49. Richardson, W.D., Pringle, N.P., Yu, W.-P. and Hall, A.C. (1997). Origins of spinal cord oligodendrocytes: possible developmental and evolutionary relationships with motor neurons. *Dev. Neurosci.* 19, 54-64.

50. Pringle, N.P., Nadon, N.L., Rhode, D., Richardson, W.D. and Duncan, I.D. (1997). Normal temporal and spatial distribution of oligodendrocyte progenitors in the myelin-deficient (md) rat. *J. Neurosci. Res*. 47, 264-270.

51. Pringle, N., Yu, W.-P., Collarini, E.J., Calver, A., Hall, Guthrie, S. and Richardson, W.D. (1997). Origins and early development of oligodendrocyte precursor cells. In Molecular signalling and regulation in glial cells. G.Jeserich, H.H.Althaus, C.Richter-Landsberg, R.Heumann editors. Springer-Verlag (Berlin, Heidelberg, New York)

52. Calver, A.R., Hall, A.C., Yu, W.-P., Walsh, F.S., Heath, J.K., Betsholtz, C. and Richardson, W.D. (1998). Oligodendrocyte population dynamics and the role of PDGF in vivo. *Neuron* 20, 869-882.

53. Pringle, N.P., Guthrie, S., Lumsden, A. and Richardson, W.D. (1998). Dorsal spinal cord neuroepithelium generates astrocytes but not oligodendrocytes. *Neuron* 20, 883-893.

54. Sun, T., Pringle, N.P., Hardy, A., Richardson, W.D. and Smith H.K. (1998). Pax6 influences the time and site of origin of glial precursors in the ventral neural tube. *Mol. Cell. Neurosci*. 12, 228-239.

55. Fruttiger, M., Karlsson,L., Hall, A.C., Abramsson, A., Calver, A.R., Boström, H., Willetts, K., Bertold, C.-H., Heath, J.K., Betsholtz, C. and Richardson, W.D. (1999). Defective oligodendrocyte development and severe hypomyelination in PDGF-A knockout mice. *Development* 126, 457-467.

56. Richardson, W.D., Smith, H.K., Sun, T., Pringle, N.P., Hall., A. and Woodruff, R. (2000). Oligodendrocyte lineage and the motor neuron connection. *Glia* 29, 136-142.

Publications (continued)

57. Sun, T., Jayatilake, D., Afink, G.B., Ataliotis, P., Nistér, M., Richardson, W.D. and Smith, H.K. (2000). A human YAC transgene rescues craniofacial and neural tube development in *PDGFRα* knockout mice and uncovers a role for PDGFRα in prenatal lung growth. *Development* 127, 4519-4529.

58. Fruttiger, M., Calver, A.R. and Richardson, W.D. (2000). PDGF is constitutively secreted from neuronal cell bodies but not from axons. *Curr. Biol.* 10, 1283-1286.

59. Woodruff, R.H., Tekki-Kessaris, N. Stiles, C.D., Rowitch, D.H. and Richardson, W.D. (2001). Oligodendrocyte development in the spinal cord and telencephalon: common themes and new perspectives. *Int. J. Dev. Neurosci*. 19, 379-385.

60. Richardson, W.D. (2001). Oligodendrocyte Development. Chapter 2 in: *Glial Cell Development* (2nd edition; ISBN 0 19 852478 1). KR Jessen and WD Richardson, editors (Oxford University Press) pp21-54.

61. van Heyningen, P., Calver, A.R. and Richardson, W.D. (2001). Control of progenitor cell number by mitogen supply and demand. *Curr. Biol.* 11, 232-241.

62. Tekki-Kessaris, N., Woodruff, R., Hall, A.C., Gaffield, W., Kimura, S., Stiles, C.D., Rowitch, D.H. and Richardson, W.D. (2001). Hedgehog-dependent oligodendrocyte lineage specification in the telencephalon. *Development* 128, 2545-2554.

63. Kessaris, N., Pringle, N. and Richardson, W.D. (2001). Ventral neurogenesis and the neuron-glial switch. *Neuron* 31, 677-680.

64. Fu, H., Qi, Y., Tan, M., Cai, J., Takebayashi, H., Nakafuku, M., Richardson, W.D. and Qiu, M. (2002). Dual origin of spinal oligodendrocyte progenitors and evidence for the cooperative role of *Olig2* and *Nkx2.2* in the control of oligodendrocyte differentiation. *Development* 129, 681-693.

65. Rowitch, D.H., Lu, Q.R., Kessaris, N., and Richardson, W.D. (2002). An “oligarchy” rules neural development. *Trends Neurosci*. 25, 417-422.

66. Pringle, N.P., Yu, W.-P., Howell, M., Colvin, J.S., Ornitz, D.M. and Richardson, W.D. (2003). *Fgfr3* in astrocytes and their precursors: evidence that astrocytes and oligo-dendrocytes originate in separate neuroepithelial domains. *Development* 130, 93-102.
F1000Prime 1* http://f1000.com/1012684

67. Ivanova, A., Agochiya, M., Amoyel, M. and Richardson, W.D. (2004). Receptor tyrosine phosphatase zeta/ beta in astrocyte progenitors in the developing chick spinal cord. *Gene Expression Patterns* 4, 161-166.

68. Woodruff, R.F., Fruttiger, M., Richardson, W.D. and Franklin, R.J.M. (2004). Platelet-derived growth factor regulates oligodendrocyte progenitor numbers in adult CNS and their response following CNS demyelination. *Mol. Cell. Neurosci.* 25, 252-262.

69. Kessaris, N., Jamen, F., Rubin, L.L. and Richardson, W.D. (2004). Cooperation between Sonic hedgehog and fibroblast growth factor/ MAPK signalling pathways in neocortical precursors. *Development* 131, 1289-1298.
F1000Prime 2* http://f1000.com/1018458

Publications (continued)

70. Billon, N., Terrinoni, A., Jolicoeur, C., McCarthy, A., Richardson, W.D., Melino, G. and Raff, M. (2004). Roles for p53 and p73 during oligodendrocyte development. *Development* 131, 1211-1220.

71. Perry, P., Sauer, S., Billon, N., Richardson, W.D., Spivakov, M., Warnes, G., Livesey, F.J., Merkenschlager, M., Fisher, A.G. and Azuara, V. (2004). A dynamic switch in the replication timing of key regulator genes in embryonic stem cells upon neural induction. *Cell Cycle* 3, 1645-1650.

72. Fogarty, M., Richardson, W.D. and Kessaris, N. (2005). A subset of oligodendrocytes generated from radial glia in the dorsal spinal cord. *Development* 132, 1951-1959.
F1000Prime 2* http://f1000.com/prime/1025125

73. West, H., Richardson, W.D. and Fruttiger, M. (2005). Stabilization of the retinal vascular network by reciprocal feedback between blood vessels and astrocytes. *Development* 132, 1855-1862.
F1000Prime 2* http://f1000.com/prime/1026017

74. Matsuoka, T., Ahlberg, P.E., Kessaris, N., Iannarelli, P., Dennehy, U., Richardson, W.D., McMahon, A.P. and Koentges, G. (2005). Neural crest origins of the neck and shoulder. *Nature* 436, 347-355.
F1000Prime 2* http://f1000.com/prime/1011667

75. Kessaris, N., Fogarty, M., Iannarelli, P., Grist, M., Wegner, M. and Richardson, W.D. (2006). Competing waves of oligodendrocytes in the forebrain and postnatal elimination of an embryonic lineage. *Nat. Neurosci.* 9, 173-179. (highlighted by: Ventura, R.E. and Goldman, J.E. (2006). *Nat. Neurosci.* 9,153-154)
F1000Prime 3* exceptional http://f1000.com/prime/1030668

76. Richardson, W.D., Kessaris, N., & Pringle, N.P. (2006). Oligodendrocyte Wars. *Nat. Rev. Neurosci.* 7, 11-18.

77. Kazakova, N., Li, H., Mora, A., Jessen, K., Mirsky, R., Richardson, W.D. and Smith, H.K. (2006). A screen for mutations in zebrafish that affect myelin basic protein expression in Schwann cells and oligodendrocytes. *Dev. Biol*. 297, 1-13.

78. Stolt, C.C., Schlierf, A., Lommes, P., Hillgärtner, S., Werner, T., Kosian, T., Sock, E., Kessaris, N., Richardson, W.D., Lefebvre, V. and Wegner, M. (2006). SoxD proteins influence multiple stages of oligodendrocyte development and modulate SoxE protein function. *Developmental Cell* 11, 697-709.

79. Billon, N., Iannarelli, P., Monteiro, M.C., Glavieux-Pardanaud, C., Richardson, W.D., Kessaris, N., Dani, C. and Dupin, E. (2007). The generation of adipocytes by the neural crest. *Development* 134, 2283-2292. **F1000Prime** 2* http://f1000.com/prime/1086971

80. Barrio, M.G., Taveira-Marques, R., Muruyama, Y., Yuk., D.-I., Li, S., Wines-Samuelson, M., Shen., J., Smith, H.K., Xiang, M., Rowitch, D. and Richardson, W.D. (2007). A regulatory network involving Foxn4, Mash-1 and Delta-like 4/Notch-1 generates V2a and V2b spinal interneurons from a common progenitor pool. *Development* 134, 3427-3436.

81. Young, K., Fogarty, M., *Kessaris, N. and *Richardson, W.D. (2007). Subventricular zone stem cells are heterogeneous with respect to their embryonic origins and neurogenic fates in the adult olfactory bulb. *J. Neurosci*. 27, 8286-8296. *joint senior authors

Publications (continued)

82. Costa, M.R., Kessaris, N., Richardson, W.D., Götz, M. and Hedin-Pereira, C. (2007). The marginal zone/ layer 1 as a novel niche for neurogenesis and gliogenesis in developing cerebral cortex. *J. Neurosci.* 27, 11376-11388.
F1000Prime 1* http://f1000.com/prime/1099433

83. Li, H., Lu, Y., Smith, H.K. and Richardson W.D. (2007). Olig1 and Sox10 interact synergistically to drive myelin basic protein (mbp) transcription in oligodendrocytes. *J. Neurosci.* 27, 14375-14382.

84. Richardson, W.D. (2008). Oligodendrocyte specification, in Encyclopedia of Neuroscience. Larry R. Squire, Editor-in-Chief. (Academic Press, Oxford).

85. Kessaris, N., Pringle, N.P. and Richardson, W.D. (2008). Specification of CNS glia from neural stem cells in the embryonic neuroepithelium. *Phil. Trans. Royal Soc. B* 363, 71-85.

86. Müller, S.M., Stolt, C.C., Terszowski, G., Blum, C., Amagai, T., Kessaris, N., Iannarelli, P., Richardson, W.D., Wegner, M. and Rodewald, H.-R. (2008). Neural crest origin of perivascular mesenchyme in the adult thymus. *J. Immunol.* 180, 5344-5351.

87. Zhou, L., Bar, I., Achouri, Y., Campbell, K., De Backer, O., Hebert, J.M., Jones, K., Kessaris, N., Lambert de Rouvroit, C., O'Leary, D., Richardson, W.D., Goffinet, A.M. and Tissir, F. (2008). Early forebrain wiring: genetic dissection using conditional Celsr3 mutant mice. *Science* 320, 946-949.

88. Pontecorvi, M., Goding, C.R., Richardson, W.D. and Kessaris, N. (2008). Expression of Tbx2 and Tbx3 in the developing hypothalamic-pituitary axis. *Gene Expression Patterns* 8, 411-417.

89. Rivers, L.E., Young, K.M., Rizzi, M., Jamen, F., Psachoulia, K., Wade, A., Kessaris, N. and Richardson, W.D. (2008). PDGFRA/NG2-positive glia generate myelinating oligodendrocytes and piriform projection neurons in adult mice. *Nat. Neurosci.* 11, 1392-1401. (highlighted by: Kang, S.H. and Bergles, D.E. (2008). *Nat. Neurosci.* 11, 1365-1367.)

90. Anselmi, F., Hernandez, H., Crispino. G., Seydel, A., Ortolano, S., Roper, S.D., Kessaris, N., Richardson, W.D., Rickheit, G., Filippov, M., Monyer, H. and Mammano, F. (2008). ATP release through connexin hemichannels and gap junction transfer of second messengers propagate Ca2+ signals across the inner ear. *Proc. Natl. Acad. Sci. USA* 105, 18770-18775.

91. Li, H. and Richardson, W.D. (2009). Genetics meets epigenetics: HDACs and Wnt signalling in oligodendrocyte development and regeneration. *Nat. Neurosci.* 12, 815-817. (News and Views)

92. Li, H. and Richardson, W.D. (2009). The evolution of Olig genes and their roles in myelination. *Neuron Glia Biology* 4, 129-135.

93. Gomez-Sanchez, J.A., Lopez de Armentia, M., Lujan, R., Kessaris, N., Richardson, W.D. and Cabedo, H. (2009). Sustained axon-glial signalling induces Schwann cell hyperproliferation, Remak bundle myelination and tumorigenesis. *J.Neurosci.* 29, 11304-11315.

94. Li, H., He, Y., Richardson, W.D. and Casacchia, P. (2009). Two-tier transcriptional control of oligodendrocyte differentiation. *Curr. Opinion Neurobiol.* 19, 479-485.

Publications (continued)

95. Genethliou, N., Panayiotou, E., Panayi, H., Orford, M., Mean, R., Lapathitis, G., Gill, H., Raoof, S., Gasperi, R.D., Elder, G., Kessaris, N., Richardson, W.D. and Malas, S. (2009). SOX1 links the function of neural patterning and Notch signalling in the ventral spinal cord during the neuron-glial fate switch. *Biochem. Biophys. Res. Comm.* 390, 1114-1120.

96. Psachoulia, K., Jamen, F., *Young, K.M. and *Richardson, W.D. (2009). Cell cycle dynamics of NG2 cells in the postnatal and ageing mouse brain. *Neuron Glia Biology* 5, 57-67. (Special Issue on NG2 cells, WD Richardson, editor). *joint senior authors

97. Panayi, H., Orford, M., Panayiotou, E., Genethliou, N., Mean, R., Lapathitis, G., Li, S., Xiang, M., Kessaris, N., Richardson, W.D. and Malas, S. (2010). Sox1 is required for the specification of a novel p2-derived interneuron subtype in the mouse ventral spinal cord. *J. Neurosci.* 30, 12274-12280.

98. Young, K.M., Mitsumori, T., Pringle, N., Grist, M., *Kessaris, N. and *Richardson, W.D. (2010). An *Fgfr3-iCreER^{T2}* transgenic line for studies of astrocytes and neural stem cells in the mouse CNS. *Glia* 58, 943-953. *joint senior authors

99. Zawadzka, M., Rivers, L., Fancy, S.P.J., Zhao, C., Tripathi, R., Jamen, F., Young, K.M., Goncharevich, A., Pohl, H., Rizzi, M., Rowitch, D.H., Kessaris, N., Süter, U., *Richardson, W.D. and *Franklin, R.J.M. (2010). CNS-resident glial progenitor/stem cells make Schwann cells as well as oligodendrocytes during repair of CNS demyelination. *Cell Stem Cell* 6, 578-590. * joint senior authors

100. Tripathi, R.B., Rivers, L.E., Jamen, F. Young, K.M. and Richardson, W.D. (2010). NG2 glia generate new oligodendrocytes but few astrocytes in a murine experimental autoimmune encephalomyelitis model of demyelinating disease. *J. Neurosci.* 30, 16383-16390.

101. Rinholm, J.E., Hamilton, N.B., Kessaris, N., Richardson, W.D., Bergersen, L.H. and Attwell, D. (2010). Regulation of oligodendrocyte development and myelination by glucose and lactate. *J. Neurosci.* 31, 538-548.

102. Li, H., Paes de Faria, J., Andrew, P. Nitarska, J. and Richardson, W.D. (2011). Phosphorylation regulates OLIG2 cofactor choice and the motor neuron-oligodendrocyte fate switch. *Neuron* 69, 918-929. [highlighted by: Gaber, Z.B. and Novitch, B.G. (2011). *Neuron* 69, 833-835. also Yates, D. (2011). *Nat. Rev. Neurosci.* 12, 248-249.]
F1000Prime 3* http://f1000.com/prime/9443956

103. Tripathi, R., Clarke, L.E., Burzomato, V., Anderson, P.N., Kessaris, N., Attwell, D., and Richardson, W.D. (2011). Dorsally- and ventrally-derived oligodendrocytes have similar electrical properties but myelinate preferred tracts. *J. Neurosci.* 31, 6809-6819.

104. Calvo, C.-F., Fontaine, R., Soueid, J., Tammela, T., Makinen, T., Alfaro-Cervello, C., Bonnaud, F., Miguez, A., Benhaim, L., Xu, Y., Barallobre, M.-J., Moutkine, I., Lyytikkä, J., Tatlisumak, T., Pytowski, B., Zalc, B., Richardson, W., Kessaris, N., Garcia-Verdugo, J.M., Alitalo, K., Eichmann, A. and Thomas, J.-L. (2011). Vascular endothelial growth factor receptor 3 directly regulates murine neurogenesis. *Genes Dev.* 25, 831-844.

105. Causeret, F., Ensini, M., Teissier, A., Kessaris, N., Richardson, W.D., Lucas de Couville, T., and Pierani, A. (2011) *Dbx1*-expressing cells are necessary for the survival of the mammalian anterior neural and craniofacial structures. *PLoS ONE* 6: e19367. doi:10.1371/journal.pone.0019367

106. Richardson, W.D., Young, K.M., Tripathi, R.B. and McKenzie, I. (2011). NG2-glia as multipotent neural stem cells: fact or fantasy? *Neuron* 70, 661-673

Publications (continued)

107. Laranjeira, C., Sandgren, K., Kessaris, N., Richardson, W., Potocnik, A., Vanden Berghe, P. and Pachnis, V. (2011). Glial cells in the mouse enteric nervous system can undergo neurogenesis in response to injury. *J. Clinical Invest.* 121, 3412-3424. **F1000Prime** 2* http://f1000.com/prime/13357405

108. Clarke, L.E., Young, K.M., Hamilton, N.B., Li, H., Richardson, W.D. and Attwell, D. (2012). Properties and fate of oligodendrocyte progenitor cells in the corpus callosum, motor cortex and piriform cortex of the mouse. *J.Neurosci.* 32, 8173-8185. doi: 10.1523/jneurosci.0928-12.2012.

109. Hari, L., Miescher, I., Shakhova, O., Süter, U., Chin, L., Taketo, M., Richardson, W.D., Kessaris, N. and Sommer, L. (2012). Temporal control of neural crest lineage generation by Wnt/ β-Catenin signaling. *Development* 139, 2107-2117. doi: 10.1242/dev.073064.

110. Molofsky, A.V., Krenick, R., Ullian, E., Tsai, H.-H., Deneen, B., Richardson, W.D., Barres, B.A. and Rowitch, D.H. (2012). Astrocytes and disease: a neurodevelopmental perspective. *Genes Dev.* 26, 891-907. doi: 10.1101/gad.188326.112.

111. Tsai, H.-H., Li, H., Fuentealba, L., Molofsky, A.V., Taveira-Marques, R., Zhuang, H., Tenney, A., Murnen, A.T., Fancy, S.P.J., Merkle, F., Kessaris, N., Alvarez-Buylla, A., Richardson, W.D.* and Rowitch, D.H.* (2012). Regional astrocyte allocation regulates CNS synaptogenesis and repair. *Science* 337, 358-362. * joint senior authors doi: 10.1126/science.1222381. **F1000Prime** 4* http://f1000.com/prime/717957519

112. Chittka, A., Nitarska, J., Grazini, U., and Richardson, W.D. (2012). Transcription Factor Positive Regulatory Domain 4 (PRDM4) recruits Protein Arginine Methyltransferase 5 (PRMT5) to mediate histone arginine methylation and control neural stem cell proliferation and differentiation. *J. Biol. Chem.* 287, 42995-43006. doi: 10.1074/jbc.M112.392746.

113. Anttonen, T., Kirjavainen, A., Belevich, I., Laos, M., Richardson, W.D., Jokitalo, E., Brakebusch, C. and Pirvola, U. (2012). Cdc42-dependent structural development of auditory supporting cells is required for wound healing in adulthood. *Sci. Rep.* 2, 978. doi: 10.1038/srep00978.

114. Philips, T., Bento-Abreu, A., Nonneman, A., Haeck, W., Staats, K., Geelen, V., Hersmus, N., Küsters, B., Van Den Bosch, L., Van Damme, P., Richardson, W.D. and Robberecht, W. (2013). Oligodendrocyte dysfunction in the pathogenesis of amyotrophic lateral sclerosis. *Brain* 136, 471-482. doi: 10.1093/brain/aws339.

115. Young, K.M., Psachoulia, K., Tripathi, R.B., Dunn, S.-J., Cossell, L., Attwell, D., Tohyama, K. and Richardson, W.D. (2013). Oligodendrocyte dynamics in the healthy adult CNS: evidence for myelin remodelling. *Neuron* 77, 873-885. doi: 10.1016/j.neuron.2013.01.006. **F1000Prime** 10* http://f1000.com/prime/717988342

116. Anthwal, N., Pelling, M., Claxton, S., Mellitzer, G., Collin, C., Kessaris, N., Richardson, W.D., Gradwohl, G. and Ang, S.-L. (2013). Conditional deletion of neurogenin-3 using *Nkx2.1iCre* results in a mouse model for the central control of feeding, activity and obesity. *Disease Models and Mechanisms* 6, 1133-1145. doi: 10.1242/dmm.011916.

117. Panayiotou, E., Panayi, E., Lapathitis, G., Francius, C., Cotman, F., Kessaris, N., Richardson, W.D. and Malas, S. (2013). Pax6 is expressed in subsets of V0 and V2 interneurons in the ventral spinal cord in mice. *Gene Expression Patterns* 13, 328-334. doi: 10.1016/j.gep.2013.06.004.

Publications (continued)

118. Paes de Faria, J., Kessaris, N., Andrew, P., Richardson, W.D. and Li, H. (2014). New *Olig1* null mice confirm a non-essential role for Olig1 in oligodendrocyte development. *BMC Neurosci.* 15, 12. doi:10.1186/1471-2202-15-12.

119. Crawford, A.H., Stockley, J.H., Tripathi, R.B., Richardson, W.D. and Franklin, R.J. (2014). Oligodendrocyte progenitors: adult stem cells of the central nervous system? *Exp. Neurol.* doi:10.1016/j.expneurol.2014.04.027 Epub

120. Pouwels, P.J.W., Vanderver, A., Bernard, G., Wolf, N.I., Dreha-Kulczewski, S.F., Deoni, S.C.L., Bertini, E., Kohlschütter, A., Richardson, W., ffrench-Constant, C., Köhler, W., Rowitch, D. and Barkovich, A.J. (2014). Hypomyelinating leukodystrophies: translational research progress and prospects. *Annals Neurol*. 76, 5-19. doi: 10.1002/ana.24194.

121. *McKenzie, I.A., *Ohayon, D., Li, H., Paes de Faria, J., Emery, B., Tohyama, K. and Richardson, W.D. (2014). Motor skill learning requires active central myelination. *Science* 346, 318-322. *equal contributions (see Commentary by Long, P. and Corfas G. (2014). To learn is to myelinate. *Science* 346, 298-299.) **F1000Prime** 6* exceptional http://f1000.com/prime/722496230

122. Ntokou, A., Klein, F., Dontireddy, D., Becker, S., Bellusci, S., Richardson, W.D., Szibor, M., Braun, T., Morty, R., Seeger, W., Voswinckel, R. and Ahlbrecht, K. (2014). Characterization of the platelet-derived growth factor receptor α-positive cell lineage during murine late lung development. *American J Physiol.* 309, L942-958. doi: 10.1152/ajplung.00272.2014.

123. Bergles, D.E. and Richardson, W.D. (2015). Oligodendrocyte development and plasticity. In Glia; Cold Spring Harbor Laboratory Press (Cold Spring Harbor) (eds BA Barres, MR Freeman, B Stevens). pp139-165. *Cold Spring Harb Perspect Biol* 8: a020453. doi: 10.1101/cshperspect.a020453

124. Li, H. and Richardson, W.D. (2016). Evolution of the CNS myelin gene regulatory program. *Brain Res.* 1641, 111-121. doi: 10.1016/j.brainres.2015.10.013

125. *Crawford, A.H., *Tripathi, R.B., Förster, S., McKenzie, I.A., Kougioumtzidou, E., Grist, M., Richardson, W.D.[§] and Franklin, R.J.M.[§] (2016). Pre-existing mature oligodendrocytes do not contribute to remyelination following toxin-induced spinal cord demyelination. *American J Pathol.* 186, 511-516. *equal contributions; [§]joint senior authors

126. Jolly, S., Fudge, A., Pringle, N., Richardson, W.D. and Li, H. (2016). Combining double fluorescence in situ hybridization with immunolabelling for detection of the expression of three genes in mouse brain sections. *J Vis Exp* e53976, doi:10.3791/53976.

127. Crawford, A.H., Tripathi, R.B., Richardson, W.D.* and Franklin, R.J.M.* (2016). The developmental origin of oligodendrocyte lineage cells determines their response to demyelination and susceptibility to age-related decline. *Cell Reports* 15, 761-773. *joint senior authors. doi:10.1016/j.celrep.2016.03.069

128. Tunbak, H., Georgiou, C., Guan, C., Richardson, W.D. and Chittka, A. (2016). Zinc fingers 1, 2, 5 and 6 of transcriptional regulator PRDM4 are required for its nuclear localisation. *Biochem Biophys Res Comm* 474, 388-394. doi: 10.1016/j.bbrc.2016.04.128

129. Xiao, L., Ohayon, D, McKenzie, I.A., Sinclair-Wilson, A., Wright, J.L., Fudge, A.D., Emery, B., Li, H. and Richardson, W.D. (2016). Rapid production of new oligodendrocytes is required in the earliest stages of motor-skill learning. *Nat Neurosci* 19, 1210-1217. **F1000Prime** 2* very good https://facultyopinions.com/prime/726579147

Publications (continued)

130. Marques, S., Zeisel, A., Codeluppi, S., van Bruggen, D., Mendanha Falcão, A., Xiao, L., Li, H., Häring, M., Hochgerner, H., Romanov, R.A., Gyllborg, D., Muñoz Manchado, A., La Manno, G., Lönnerberg, P., Florridia, E.M., Rezayee, F., Ernfors, P., Arenas, E., Hjerling-Leffler, J., Harkany, T., Richardson, W.D., Linnarsson, S., Castelo-Branco, G. (2016). Oligodendrocyte heterogeneity in the mouse juvenile and adult central nervous system. *Science* 352, 1326-1329. **F1000Prime** 4* very good https://facultyopinions.com/prime/726408842

131. Ohayon, D., Garcès, A., Joly, W., Soukkarieh, C., Yageki, T., Sabourin, J.-C., Agius, E., Darling, D.S., De Santa Barbara, P., Higashi, Y., Stolt, C.C., Hugnot, J.-P., Richardson, W.D., Carroll., P. and Pattyn, A. (2016). Onset of spinal cord astrocyte precursor emigration from the ventricular zone involves the Zeb1 transcription factor. *Cell Reports* 17, 1473-1481.

132. Espinosa-Medina, I., Saha, O., Boismoreau, F., Cettouh, Z., Rossi, F., Richardson, W.D. and Brunet, J.-F. (2016). The sacral autonomic outflow is sympathetic. *Science* 354, 893-897. **F1000Prime** 6* exceptional https://facultyopinions.com/prime/726994615

133. Hamilton, N.B., Clarke, L.E., Arancibio-Carcamo, I.L., Kougioumtzidou, E., Matthey, M., Káradóttir, R., Whitely, L., Bergersen, L.H., Richardson, W.D. and Attwell, D. (2017). Endogeneous GABA controls oligodendrocyte lineage cell number, myelination and CNS internode length. *Glia* 65, 309-321.

134. Kougioumtzidou, E., Shimizu, T., Hamilton, N.B., Tohyama, K., Sprengel, R., Monyer, H., Attwell, D.[§] and Richardson, W.D.[§] (2017). Signalling through AMPA-type glutamate receptors on oligodendrocyte precursors promotes myelination by enhancing oligodendrocyte survival. *eLife* 2017;6:e28080 doi: 10.7554/eLife.28080 [§] joint senior authors

135. Tripathi, R. B., Jackiewicz, M., McKenzie, I.A., Kougioumtzidou, E., Grist, M. and Richardson, W.D. (2017). Remarkable stability of myelinating oligodendrocytes in mice. *Cell Reports* 21, 316-323. doi: 10.1016/j.celrep.2017.09.050

136. Jolly, S.*, Bazargani, N.*, Quiroga, A.C., Pringle, N.P., Attwell, D.[§], Richardson, W.D.[§] and Li, H.[§] (2018). G protein-coupled receptor 37-like 1 modulates astrocyte glutamate transporters and neuronal NMDA receptors and is neuroprotective in ischemia. *Glia* 66, 47-61. doi: 10.1002/glia.23198 *equal contributions [§] joint senior authors

137. Stierli, S., Napoli, I., White, I.J., Cattin, A.-L., Cabrejos A.M., Calavia, N.G., Malong, L., Ribeiro, S., Nihouarn, J., Williams, R., Young, K.M, Richardson, W.D. and Lloyd, A.C. (2018). The regulation of the homeostasis and regeneration of peripheral nerve is distinct from the CNS and independent of a stem cell population. *Development* 145, dev170316.

138. Ruiz-Camp, J., Quantius, J., Lignelli, E., Arndt, P.F., Palumbo, F., Nardiello, C., Surate Solaligue, D.E., Sakkas, E., Mižíková, I., Rodríguez-Castillo, J.A., István Vadász, I., Richardson, W.D., Ahlbrecht, K., Herold, S., Seeger, W. and Morty, R.E. (2019). Targeting miR-34a/*Pdgfra* interactions partially corrects alveologenesis in experimental bronchopulmonary dysplasia. *EMBO Mol Med* 11, e9448. doi: 10.15252/emmm.201809448

139. Nishiyama, A., Shimizu, T., Sherafat, A., and Richardson, W.D. (2021). Life-long oligodendrocyte development and plasticity. *Seminars Cell Dev Biol* 116, 25-37. doi: 10.1016/j.semcdb.2021.02.004

140. Kohnke, S., Buller, S., Nuzzaci, D., Ridley, K., Lam, B., Pivonkova, H., Bentsen, M.A., Alonge, K.M., Zhao, C., Tadross, J., Holmqvist, S., Shimizu, T., Hathaway, H., Li, H.,

Macklin, W., Schwartz, M.W., Richardson, W.D., Giles S.H., Yeo, G.S.H., Franklin, R.J.M., Karadottir, R.T., Rowitch, D.H., and Blouet, C. (2021). Nutritional regulation of oligodendrocyte differentiation regulates perineuronal net remodeling in the median eminence. *Cell Reports* 36: 109362. doi: 10.1016/j.celrep.2021.109362

141. An, J., Zhang, Y., Fudge, A.D., Lu, H., Richardson, W.D. and Li, H (2021). G protein-coupled receptor GPR37-like 1 regulates adult oligodendrocyte generation. *Dev Neurosci* 81, 975-984. doi: 10.1002/dneu.22854

142. Buller, S., Kohnke, S., Hansford, R., Shimizu, T., Richardson, W.D. and Blouet, C. (2022). Median eminence myelin continuously turns over in adult mice. *Molecular Metabolism* 69:101690 doi: 10.1016/j.molmet.2023.101690

143. Xing, Y.L., Poh, J., Chuang, B.H.A., Moradi, K., Mitew, S., Richardson, W.D., Kilpatrick, T.J., Osanai, Y., and Merson, T.D. (2023). High-efficiency pharmacogenetic ablation of oligodendrocyte progenitor cells in the adult mouse CNS. *Cell Reports Methods* 3:100414 doi: 10.1016/j.crmeth.2023.100414

144. Shimizu,* T., Nayar,* S.G., Swire, M., Jiang, Y., Grist, M., Kaller, M., Sampaio Baptista, C., Johansen-Berg, H., Bannerman, D.M., Ogasawara, K., Tohyama, K., Li, H. and Richardson, W.D. (2023). Oligodendrocyte dynamics determine cognitive performance outcomes of working memory training in mice. *Nat Commun* 14:6499 doi: *equal contributions

145. Foerster, S., Floriddia, E.M., van Bruggen, D., Cheng, S., Kim, E., Phillips, B.U., Heath, C.J., Neumann, B., López-Cruz, L., Crawford, A.H., Tripathi, R.B., Kessaris, N., Richardson, W.D., Saksida, L., Bussey, T.J., Castelo-Branco, G., and Franklin, R.J.M. (2023) Developmental origin of oligodendrocytes determines their function in the adult brain. Submitted

146. Wright, J., Jiang, Y., Rajeeve, V., Cutillas, P., Li, H.* and Richardson, W.D.* (2024). The INO80 chromatin remodelling complex regulates histone H2A dynamics and the oligodendrocyte precursor cell cycle. In preparation. * joint senior authors