

Curriculum Vitae

Name	Position or Title
Franklin, Robin JM,	Professor of Stem Cell Medicine

Education

Institution and Location	Degree	Year Conferred	Field of study
University College, London	BSc (1 st class)	1985	Neuroscience
Royal Veterinary College, London	BVetMed	1988	Veterinary Medicine
University of Cambridge	PhD	1992	Neuroscience

Research and Professional Experience

Professional Experience

1991-1994: Wellcome Trust Research Fellow, University of Cambridge
1994-1999: Wellcome Trust Research Career Development Fellow, University of Cambridge
1999-2000: Wellcome Trust Lecturer, University of Cambridge
2000-2002: Senior Lecturer in Experimental Neurology, University of Cambridge
2002-2005: Reader in Experimental Neurology, University of Cambridge
2005-2013: Professor of Neuroscience (personal chair), University of Cambridge
2014-present: Professor of Stem Cell Medicine, University of Cambridge

Positions Held

Senior Advisory Committee - **Wellcome Trust-MRC Cambridge Stem Cell Institute**
Director of the **Cambridge MS Society Centre for Myelin Repair**

The Wellcome Trust Expert Review Group (cellular and molecular neuroscience) – 2013-2017

European Research Council – LS7 – Advanced Awards Panel (2016-present) (vice-chair 2018)

Wellcome Trust Expert Review College, 2012-2013

Clinical Interview Panel, **The Wellcome Trust**, 2005-2010

MRC Regenerative Medicines Research Committee, 2013-2018

Scientific Committee **International Spinal Research Trust**, 2011-present

Scientific Board of **ARSEP** (French Multiple Sclerosis Society) 2006-2018

Scientific Board of **ELA** (European Leucodystrophy Association) 2005-2009, 2012-2015

UK MS Society Scientific Committee, 2013-present

MS Society-Parkinson's Disease UK Brain Bank Assessment Panel, 2012-2015

Neuroscience panel, **Health Research Board of Ireland**, 2004-2009

Co-chair of the 2016 **Gordon Research Conference** on Myelin

Membership of Professional bodies

1988: Member of Royal College of Veterinary Surgeons

2018: Fellow of Royal College of Veterinary Surgeons

2006: Fellow of Royal College of Pathologists

2016: Fellow of Academy of Medical Sciences

Awards

2004: Cavanagh Award of the British Neuropathological Society

2011: MS Society Research of the Year Award (with Charles ffrench-Constant)
2014: Kennel Club International Award
2017: Barancik Prize – International Prize for Research innovation, National Multiple Sclerosis Society

Editorial Boards (current)

Experimental Neurology (section editor – cellular and molecular neuroscience 2011-2016)

Glia

Stem Cell Research and Therapy

Brain Plasticity

Cell Death and Disease

Multiple Sclerosis Journal

Neuropathology and Applied Neurobiology (editorial advisory board)

EBioMedicine

Publications

Current H-index: 81 (Google Scholar)

Research Papers (selected since 2009, from career total of >240 peer-reviewed papers)

- Mi S, Miller H, Tang W, Lee X, Zhang Y, Shields CB, Zhang Y, Miklasz S, Shea D, Mason J, **Franklin RJM**, Ji B, Shao Z, Chedotal A, Bernard F, Roulois A, Xu J, Jung V, Pepinsky B. (2009) Promotion of central nervous system remyelination by induced differentiation of oligodendrocyte precursor cells. *Annals of Neurology* 65: 304-315.
- Bull ND, Irvine K-A, **Franklin RJM**, Martin KR (2009) Transplanted oligodendrocyte precursor cells reduce neurodegeneration in a model of glaucoma. *Investigative Ophthalmology and Visual Science* 50: 4244-4253.
- Fancy SPJ, Baranzini SE, Zhao C, Irvine K-A, Kaing S, Sanai N, **Franklin RJM***, Rowitch DH* (2009) Dysregulation of the Wnt pathway inhibits timely myelination and remyelination in the mammalian CNS. *Genes and Development* 23: 1571-1585
(* joint corresponding authors)
- Zhao C, Fancy SPJ, **Franklin RJM**, ffrench-Constant C (2009) Upregulation of oligodendrocyte precursor cell αv integrin and its extracellular ligands during CNS remyelination. *Journal of Neuroscience Research* 87: 3447-3455.
- Izawa T, Yamate J, **Franklin RJM**, Kuwamura M (2010) Abnormal myelinogenesis both in the white and gray matter of the attractin-deficient mv rat. *Brain Research* 1312:145-55.
- Buckley CE, Marguerie A, Alderton WK, **Franklin RJM** (2010) Temporal dynamics of myelination in the zebrafish spinal cord. *Glia* 58: 802-812.
- Barraud P, He X, Zhao C, Caldwell MA, **Franklin RJM** (2010) FGF but not EGF induces phosphorylation of the cAMP response element binding protein in olfactory mucosa-derived cell cultures. *Experimental Cell Research* 316:1489-99
- Zawadzka M, Rivers LE, Fancy SPJ, Zhao C, Tripathi R, Jamen F, Young K, Goncharevich A, Pohl H, Rizzi M, Rowitch DH, Kessaris N, Suter U, Richardson WD, **Franklin RJM** (2010) CNS-resident glial progenitor/stem cells produce Schwann cells as well as oligodendrocytes during repair of CNS demyelination. *Cell Stem Cell* 6: 578-590.
- Buckley CE, Marguerie A, Roach AG, Goldsmith P, Fleming A, Alderton WK, **Franklin RJM** (2010) Drug reprofiling using zebrafish identifies novel compounds with potential pro-myelination effects. *Neuropharmacology* 59: 149-159.
- Izawa T, Yamate J, **Franklin RJM**, Kuwamura M (2010) Abnormal iron accumulation is involved in the pathogenesis of the demyelinating mv rat but not in the hypomyelinating mv rat. *Brain Research* 1349:105-14.
- Ziabreva I, Campbell G, Rist J, Zamboni J, Rorbach J, Wydro MM, Lassmann H, **Franklin RJM**, Mahad D (2010) Injury and differentiation following inhibition of mitochondrial respiratory chain complex IV in rat oligodendrocytes. *Glia* 58: 1827-37.
- Christ, AF, Franze K, Gautier H, Moshayedi P, Fawcett J, **Franklin RJM**, Karadottir RT, Guck J (2010) Mechanical difference between white and gray matter in the rat cerebellum measured by scanning force microscopy. *Journal of Biomechanics* 43: 2986-2992.
- Harrington EP, Zhao C, Fancy SPJ, Kaing S, **Franklin RJM**, Rowitch DH (2010) Oligodendrocyte PTEN required for myelin/axonal integrity but not remyelination. *Annals of Neurology* 68: 703-716.
- Huang JK, Jarjour AA, Nait Oumesmar B, Kerninon C, Williams A, Krezel W, Kagechika H, Bauer J, Zhao C, Baron van Evercooren A, Chambon P, ffrench-Constant C, **Franklin RJM** (2011) Retinoid X receptor gamma signaling accelerates CNS remyelination. *Nature Neuroscience* 14: 45-53.
- Pohl HBF, Porcheri C, Mueggler T, Bachmann LC, Martino G, Riethmacher D, **Franklin RJM**, Rudin M, Suter U (2011) Genetically-induced adult oligodendrocyte cell death is associated with poor myelin clearance, reduced remyelination and axonal damage. *Journal of Neuroscience* 31:1069-1080.
- Stacopole SRL, Bilican B, Webber DJ, Luzhynskaya A, He XL, Compston A, Karadottir R, **Franklin RJM**, Chandran S. (2011) Derivation of neural precursor cells from human ES cells at 3% O₂ is efficient, enhances survival and presents no barrier to regional specification and functional differentiation. *Cell Death and Differentiation* 18: 1016-23.

- Kuwamura M, Inumaki K, Tanaka M, Shirai M, Izawa T, Yamate J, **Franklin RJM**, Kuramoto T, Serikawa T (2011) Oligodendroglial pathology in the development of myelin breakdown in the dmy mutant rat. *Brain Research* 1389: 161-8.
- Zamboni JL, Zhao C, Ohno N, Campbell GR, Engeham S, Ziabreva I, Schwarz N, Lee SE, Frischer JM, Turnbull DM, Trapp BD, Lassmann H, **Franklin RJM**, Mahad D (2011) Increased mitochondrial content in remyelinated axons: implications for multiple sclerosis. *Brain* 134: 1901-13.
- Fancy SPJ, Harington EP, Yuen TJ, Silbereis JC, Zhao C, Baranzini SE, Bruce CE, Otero JJ, Huang EC, Nusse R, **Franklin RJM**, Rowitch RH (2011) Axin2 as regulatory and therapeutic target in newborn brain injury and remyelination. *Nature Neuroscience* 14: 1009-1016.
- Stacpoole SRL, Bilican B, Webber DJ, Luzhynskaya A, He XL, Compston A, Karadottir R, **Franklin RJM**, Chandran S. (2011) Efficient derivation of neural precursor cells, spinal motor neurons and midbrain dopaminergic neurons from human ES cells at 3% oxygen. *Nature Protocols* 6: 1229-40.
- Ruckh JM, Zhao JW, Shadrach JL, van Wijngaarden P, Rao TN, Wagers AJ, **Franklin RJM** (2012) Rejuvenation of regeneration in the aging central nervous system. *Cell Stem Cell* 10: 96-103.
- Chong SYC, Rosenberg SS, Fancy SPJ, Zhao C, Shen YA, Hahn AT, McGee AW, Xu X, Zheng B, Zhang LI, Rowitch DH, **Franklin RJM**, Lu QR, Chan JR (2012) Nogo-A establishes spatial segregation and extent of oligodendrocyte myelination. *Proceedings of the National Academy of Science USA* 109: 1299-1304.
- Hampton DW, Innes N, Merkler D, Zhao C, **Franklin RJM**, Chandran S (2012) Focal immune-mediated white matter demyelination reveals an age-associated increase in axonal vulnerability and decreased remyelination efficiency. *American Journal of Pathology* 180: 1897-1905.
- Coutts DJC, Humphries CE, Zhao C, Plant GW, **Franklin RJM** (2013) Embryonic-derived olfactory ensheathing cells remyelinate focal areas of spinal cord demyelination more efficiently than neonatal or adult derived cells. *Cell Transplantation* 22, 1249-1261
- Jagielska A, Norman AL, Whyte G, Van Vliet KJ, Guck J, **Franklin RJM** (2012) Mechanical environment modulates biological properties of oligodendrocyte progenitor cells. *Stem Cells and Development* 21: 2905-2914.
- Huang JK, Ferrari CC, Monteiro de Castro G, Lafont D, Zhao C, Zaratini P, Pouly S, Greco B, **Franklin RJM** (2012) Accelerated axonal loss following acute CNS demyelination in mice lacking protein tyrosine phosphatase receptor type z. *American Journal of Pathology* 181: 1518-1523.
- Granger N, Blamires H, **Franklin RJM**, Jeffery ND (2012) Autologous olfactory mucosal cell transplants in clinical spinal cord injury: a randomized, double-blinded trial in a canine translational model. *Brain* 135: 3227-3237.
- Tanaka M, Soma K, Izawa T, Yamate J, **Franklin RJM**, Kuramoto T, Serikawa T, Kuwamura M (2012) Abnormal myelinogenesis in the central nervous system of the VF mutant rat with recoverable tremor. *Brain Research* 1488: 104-112
- Stoffels JMJ, de Jonge JC, Stancic M, Monden A, van Striem ME, Ma D, Siskova Z, Maier O, ffrench-Constant C, **Franklin RJM**, Hoekstra D, Zhao C, Baron W (2012) Fibronectin aggregation in multiple sclerosis lesions impairs remyelination. *Brain* 136: 116-131.
- Yuen TJ, Johnson KR, Miron VE, Zhao C, Quandt J, Harrisingh MC, McFarland HF, **Franklin RJM***, ffrench-Constant C* (2013) Identification of endothelin-2 as an inflammatory factor that promotes CNS remyelination. *Brain* 136: 1035-1047. (* joint corresponding authors)
- Stacpoole SRL, Webber DJ, Bilican B, Compston A, Chandran S, **Franklin RJM** (2013) NPCs cultured at physiologically relevant oxygen tensions have a survival advantage following transplantation. *Stem Cells and Translational Medicine* 2: 464-72.
- Camacho A, Huang JK, Delint-Ramirez I, Tan CY, Fuller M, Lelliott CJ, Vidal-Puig A, **Franklin RJM** (2013) PGC1 alpha coordinates sphingolipid metabolism and myelin protein synthesis. *European Journal of Neuroscience* 38:2672-83
- Miron VE, Boyd A, Zhao J-W, Yuen TJ, Ruckh JM, Shadrach JL, Wagers AJ, Williams A, **Franklin RJM***, ffrench-Constant C* (2013) M1 to M2 polarization switch in microglia/ macrophages drives oligodendrocyte differentiation during CNS remyelination. *Nature Neuroscience* 16: 1211-1218 (* joint senior authors)
- Kazanis I, Gorenkova N, Zhao J-W, **Franklin RJM**, Modo M, ffrench-Constant C (2013) The late response of rat subependymal zone stem and progenitor cells to stroke is restricted to directly affected areas of their niche. *Experimental Neurology* 248:387-97
- Syed YA, Baer A, Hofer MP, Gonzalez GA, Rundle J, Myrta S, Huang JK, Zhao C, Rossner MJ, Trotter MWB, Lubec G, **Franklin RJM***, Kotter MR* (2013) Inhibition of phosphodiesterase-4 promotes oligodendrocyte precursor cell differentiation and enhances CNS remyelination. *EMBO Molecular Medicine* 5: 1918-1934. (* joint senior authors)
- Stacpoole SRL, Spitzer S, Bilican B, Compston A, Karadottir R, Chandran S, **Franklin RJM** (2013) High yields of oligodendrocyte lineage cells from human embryonic stem cells at physiological oxygen tensions for evaluation of translational biology. *Stem Cell Reports*. Epub.
- Lundgaard I, Luzhynskaya A, Stockley JH, Wang Z, Evans K, Swire M, Volbracht K, Gautier H, **Franklin RJM**, ffrench-Constant C, Attwell D, Káradóttir R (2013) Neuregulin and BDNF induce a switch to NMDA receptor dependent myelination by oligodendrocytes. *PLoS Biology*. e1001743

- Mei F, Fancy SPJ, Shen YA, Niu J, Zhao C, Presley B, Miao E, Lee S, Mayoral SR, Redmond SA, Etxeberria A, Xiao L, **Franklin RJM**, Green A, Hauser SL, Chan JR (2013) Fabricated micropillar arrays as a novel high-throughput screening platform for potential therapeutics in multiple sclerosis. *Nature Medicine*. epub.
- Hampton DW, Serio A, Pryce G, Al-Izki S, **Franklin RJM**, Giovannoni G, Baker D, Chandran S (2013) Neurodegeneration progresses despite complete elimination of clinical relapses in a mouse model of multiple sclerosis. *Acta Neuropathologica Communications* 1: 84.
- Montani L, Buerki-Thurnherr T, Paes de Faria J, Pereira JA, Dias NG, Fernandes R, Goncalves AF, Braun A, Benninger Y, Böttcher RT, Costell M, Nave KA, **Franklin RJM**, Meijer D, Suter U, Relvas JB (2014) Profilin1 is required for peripheral nervous system myelination. *Development* 141: 1553-1561
- Pagliara S, Franze K, McClain CR, Wylde G, Fisher CL, **Franklin RJM**, Kabla AJ, Keyser UF, Chalut KJ (2014) Auxetic nuclei in embryonic stem cells exiting pluripotency. *Nature Materials* 13: 638-644.
- Tyzack GE, Sitnikov S, Barson D, Adams-Carr KL, Lau NK, Kwok JC, Zhao, C, **Franklin RJM**, Karadottir RT, Fawcett JW, Lakatos, A (2014). Astrocyte response to motor neuron injury promotes structural synaptic plasticity via STAT3-regulated TSP-1 expression. *Nature Communications*, 5: 4294. doi:10.1038/ncomms5294
- Moyon S, Dubessy AL, Aigrot MS, Trotter M, Huang JK, Dauphinot L, Potier MC, Kerninon C, Parsadaniantz SM, **Franklin RJM***, Lubetzki C* (2015) Demyelination causes adult CNS progenitors to revert to an immature state and express immune cues that support their migration. *Journal of Neuroscience* 35: 4-20 (* joint senior authors)
- Stoffels MJM, Hoekstra D, **Franklin RJM**, Baron W, Zhao C (2014). The E11A domain from astrocyte-derived fibronectin mediates proliferation of oligodendrocyte progenitor cells following CNS demyelination. *Glia* 63: 242-256
- Tanaka M, Izawa T, Yamate J, **Franklin RJM**, Kuramoto T, Serikawa T, Kuwamura M (2014). The VF rat with abnormal myelinogenesis has a mutation in Dopey1. *Glia* 62: 1503-1542
- Brennan F, Gordon R, Lao H, Biggins P, Taylor S, **Franklin RJM**, Woodruff T, Ruitenber M (2015) The complement receptor C5aR controls acute inflammation and astrogliosis following spinal cord injury. *Journal of Neuroscience* 35: 6517-6531
- Feichtner M, Kazanis I, Lange S, Rotheneichner P, Hainzl S, Öller M, Schallmoser K, Rohde E, Reitsamer HA, Couillard-Despres S, Bauer H-C, **Franklin RJM**, Aigner L, Rivera FJ (2015) Lesion-induced accumulation of platelets promotes survival of adult neural stem/progenitor cells. *Experimental Neurology* 269: 75-89
- Furusho M, Roulois A, **Franklin RJM**, Bansal R (2015) Fibroblast growth factor signaling in oligodendrocyte-lineage cells facilitates recovery of chronically demyelinated lesions but is redundant in acute lesions. *Glia* 63: 1714-1728
- Monteiro de Castro G, Deja NA Ma D, Zhao C, **Franklin RJM** (2015) Astrocyte activation via Stat3 signalling determines the balance of oligodendrocyte versus Schwann cell remyelination. *American Journal of Pathology* 185: 2431-2440
- Zhao C, Ma D, Zawadzka M, Fancy SPJ, Elis-Williams L, Bouvier G, Stockley JH, Monteiro de Castro G, Wang B, Jacobs S, Casaccia P, **Franklin RJM** (2015) Sox2 sustains recruitment of oligodendrocyte progenitor cells following CNS demyelination and primes them for differentiation during CNS remyelination. *Journal of Neuroscience* 35: 11482-11499.
- Gautier HO, Evans KA, Volbracht K, James R, Sitnikov S, Lundgaard I, James F, Lao-Peregrin C, Reynolds R, **Franklin RJM**, Káradóttir RT (2015) Neuronal activity regulates remyelination via glutamate signalling to oligodendrocyte progenitors. *Nature Communications* 6: 8518-
- Natrajan MS, Guzman de la Fuente A, Crawford AH, Linehan E, Nuñez V, Johnson KR, Wu T, Fitzgerald DC, Ricote M, Bielekova B, **Franklin RJM** (2015). Retinoid X receptor activation reverses age-related deficiencies in myelin debris phagocytosis and remyelination. *Brain* 138: 3581-3597.
- Guzman de la Fuente A, Errea A, van Wijngaarden P, Gonzalez GA, Kerninon C, Jarjour AA, Lewis HJ, Jones CA, Nait-Oumesmar B, Zhao C, Huang JK, French-Constant C, **Franklin RJM** (2015) Vitamin D receptor - retinoid X receptor heterodimer signaling regulates oligodendrocyte progenitor cell differentiation. *Journal of Cell Biology* 211: 975-985.
- Crawford AH, Tripathi RB, Foerster S, McKenzie I, Kouyoumtzidou E, Grist M, Richardson WD, **Franklin RJM** (2015) Pre-existing mature oligodendrocytes do not contribute to remyelination following toxin-induced spinal cord demyelination. *American Journal of Pathology* 186: 511-516
- Crawford AH, Tripathi RB, Richardson WD, **Franklin RJM** (2016) The developmental origin of oligodendrocyte lineage cells determines their response to demyelination and susceptibility to age-associated functional decline. *Cell Reports* 15: 761-773.
- Moyon S, Huynh JL, Dutta D, Zhang F, Ma D, Yoo S, Lawrence R, Wegner M, John GR, Emery B, Lubetzki C, **Franklin RJM**, Fan G, Zhu J, Dupree JL, Casaccia P (2016) Functional characterization of DNA methylation in the oligodendrocyte lineage. *Cell Reports* 15: 748-760
- Dhillon RS, Parker J, Syed S, Edgley S, Young A, Fawcett JW, Jeffery ND, **Franklin RJM**, Kotter MRN (2016) Axonal plasticity underpins the functional recovery following surgical decompression in a rat model of cervical spondylotic myelopathy. *Acta Neuropathologica Communications* 4: 89
- Zhu B, Nicholls M, Gu Y, Zhang G, Zhao C, **Franklin RJM**, Song B (2016). Electric Signals Regulate the Directional Migration of Oligodendrocyte Progenitor Cells (OPCs) via $\beta 1$ Integrin. *International Journal of Molecular Sciences*, 17, 1948. <http://doi.org/10.3390/ijms17111948>
- Bielecki B, Mattern C, Ghomari AM, Javaid S, Smetanka K, Abi Ghanem C, Mhaouty-Kodja S, Ghandour S, Baulieu E-E, **Franklin RJM**, Schumacher M, Traiffort E (2016). Unexpected central role of the androgen receptor in the spontaneous regeneration of

- myelin. *Proceedings of the National Academy of Sciences of the United States of America* 113:14829-14834
- Schilling F, Ros S, Hu D, D'Santos P, McGuire S, Mair R, Wright A, Mannion E, Neves AA, **Franklin RJM**, Brindle KM (2017) The urea transporter – a novel substrate-free MRI gene reporter detected using transmembrane water exchange imaging. *Nature Biotechnology* 35: 75-80
- Kazanis I, Evans KA, Andreopoulou E, Dimitriou C, Koutsakis C, Karadottir RT, **Franklin RJM** (2017) Subependymal zone derived oligodendroblasts respond in a fast and transient mode to focal demyelination but fail to generate myelin in young and aged mice. *Stem Cell Reports* 8, 685-70
- Moyon S, Ma D, Huynh JL, Coutts DJC, Zhao C, Casaccia P, **Franklin RJM** (2017) Efficient remyelination requires DNA methylation. *eNeuro* 4: 0336-16.2017
- Dombrowski Y, O'Hagan T, Dittmer M, Penalva R, Mayoral SR, Bankhead P, Fleville S, Eleftheriadi G, Zhao C, Naughton M, Hassan R, Moffat J, Falconer J, Boyd A, Hamilton P, Allen IV, Kissenpfennig A, Moynagh PA, Evergren E, Perbal B, Williams AC⁸, Ingram RJ, Chan JR, **Franklin RJM**, Fitzgerald DC (2017) Regulatory T cells promote myelin regeneration in the central nervous system. *Nature Neuroscience* 20: 674-680
- Guzman De La Fuente A, Simona Lange S, Tempfer H, Zhao C, van Wijngaarden P, Rotheneichner P, Trost A, Gonzalez GA, O'Sullivan A, Silva MA, Bieler L, Errea O, Andrae J, He L, Couillard-Despres S, Mäe MA, Keller A, Betsholtz C, Aigner L*, **Franklin RJM***, Rivera FJ* (2017) Pericytes stimulate oligodendrocyte progenitor cell differentiation during CNS remyelination. *Cell Reports* 20: 1755-1764 (* joint senior authors)
- Sun D, Yu Z, Fang X, Liu M, Pu Y, Shao Q, Wang D, Zhao X, Huang A, Xiang Z, Zhao C, **Franklin RJM**, Cao L, He C (2017) GASS inhibits microglial M2 polarization and exacerbates demyelination. *EMBO Reports* 18: 1801-1816
- Cree BAC, Niu J, Hoi KK, Zhao C, Caganap SD, Henry RG, Dao DQ, Zollinger DR, Mei F, Shen YA, **Franklin RJM**, Ullian EM, Xiao L, Chan JR, Fancy SPJ (2018) Clemastine rescues myelination defects and promotes functional recovery in hypoxic injury. *Brain* 141: 85-98
- Ma D, Wang B, Zadwadzka M, Gonzalez G, Wu Z, Yu B, Rawlins EL, **Franklin RJM***, Zhao C* (2018) A sub-population of Foxj1 expressing, non-myelinating Schwann cells of the peripheral nervous system contribute to Schwann cell remyelination in the central nervous system. *Journal of Neuroscience* 38:9228–9239 (* joint senior authors)
- Ulanska-Poutanen J, Mieczkowski J, Zhao C, Konarzewska K, Kaza B, Pohl HBF, Bugajski L, Kaminska B, **Franklin RJM***, Zawadzka M* (2018) Injury-induced perivascular niche supports alternative differentiation of adult CNS progenitor cells. *eLife* e30325 (* joint senior authors)
- Schirmer L, Cruz Herranz A, Ben Haim L, **Zhao C**, Cordano C, Pröbstel AK, Shioh LR, Kelley KW, Moebius W, Timmons G, Sin JH, Wright J, Morrison D, Chang S, Sabeur K, Nave KA, R. **Franklin RJM**, Green AJ, **Rowitch DH** (2018) Oligodendrocyte *Kir4.1* is essential for axon integrity and a therapeutic target in multiple sclerosis. *eLife* e36428
- Hammond TR, Dufort C, Dissing-Olesen, Giera S, Young A, Wysoker A, Walker AJ, Gergits F, Segel M, Nemes J, Marsh SE, Saunders A, Macosko E, Ginhoux F, Chen J, **Franklin RJM**, Piao X, McCarroll S, Stevens B (2018) Single-Cell RNA Sequencing of microglia throughout the mouse lifespan and in the injured brain reveals complex cell-state changes. *Immunity* 50: 1-19
- Raror R, Neumann B, Segel M, Chalut KC, Fancy SPJ, Schafer DP, **Franklin RJM** (2019) Transforming growth factor-beta renders ageing microglia inhibitory to oligodendrocyte generation by CNS progenitors. *Glia* In press
- Silva ME, Lange S, Hinrichsen B, Philip A, Reyes CR, Halabi D, Rotheneichner R, Guzman de la Fuente A, Couillard-Despres S, Batiz LF, **Franklin RJM**, Aigner L, Rivera FJ (2019) Pericytes favour oligodendrocyte fate choice in adult neural stem cells. *Frontiers in Cellular Neuroscience*. In press
- Bernstock JD, Peruzzotti-Jametti L, Leonardi T, Vicario N, Ye D, Lee Y, Maric D, Johnson KR, Mou Y, van den Bosch A, Winterbone M, Friedman GK, Franklin RJM, Hallenbeck JM, Pluchino S (2019) SUMOylation promotes survival and integration of neural stem cell grafts in ischemic stroke. *EBioMedicine*. In press.

Selected Key Reviews

- Blakemore WF, **Franklin RJM** (1991) Transplantation of glial cells in the CNS. *Trends in Neurosciences* 14: 323-327
- Franklin RJM**, Blakemore WF (1995) Glial cell transplantation and plasticity in the O-2A lineage- implications for CNS repair. *Trends in Neurosciences*. 18: 151-156
- Franklin RJM (2002) Why does remyelination fail in MS? *Nature Reviews Neuroscience* 3: 705-714.
- Dubois-Dalcq M, ffrench-Constant C, Franklin RJM (2005) Enhancing central nervous system remyelination in multiple sclerosis. *Neuron* 48: 9-12.
- Franklin RJM, Zhao C (2006) Tyrosine kinases: maiming myelin in leprosy. *Nature Medicine* 12: 889-890.
- Franklin RJM**, ffrench-Constant (2008) CNS remyelination – from biology to therapy. *Nature Reviews Neuroscience* 9: 839-855.
- Martino G*, **Franklin RJM***, Baron-Van Evercooren A, Kerr DA and the STEMS Consensus Group (2010) Stem cell transplantation in multiple sclerosis: current status and future prospects. *Nature Reviews Neurology* 6: 247-255. (* joint corresponding authors)
- Franklin RJM**, ffrench-Constant C (2010) Stem cell treatments and multiple sclerosis (editorial). *British Medical Journal* 340: 985-986.
- Franklin RJM**, ffrench-Constant C, Edgar J, Smith K (2012) Neuroprotection and repair in multiple sclerosis. *Nature Reviews Neurology* 8: 623-634.
- Franklin RJM**, Bussey TJ (2013) Do your glia make you clever? *Cell Stem Cell* 12: 265-266.

van Wijngaarden P, **Franklin RJM** (2013) Ageing stem and progenitor cells: implications for rejuvenation of the central nervous system. *Development* 140: 2562-2575.

Sawcer S, **Franklin RJM**, Ban M (2014) Multiple Sclerosis: the mist is beginning to lift. *Lancet Neurology*. 13: 700–709

Franklin RJM, Gallo V (2014) The translational biology of remyelination: past, present and future. *Glia* 62: 1905-1915

Miron VE, **Franklin RJM** (2014). Macrophages and CNS remyelination. *Journal of Neurochemistry* 130:165-71

Crawford AH, Stockley JH, Tripathi R, Richardson WD, **Franklin RJM** (2014) Oligodendrocyte progenitors: adult stem cells of the central nervous system? *Experimental Neurology* 260: 50-55

Miron VE, **Franklin RJM** (2014) Macrophages and CNS remyelination. *Journal of Neurochemistry* 130: 165-171.

Franklin RJM (2015) Regenerative medicines for remyelination: from aspiration to reality. *Cell Stem Cell* 16: 576-577

Franklin RJM, Goldman SA (2015) Glia Disease and Repair-Remyelination. *Cold Spring Harbour Perspectives in Biology* 7: a020594.

Franklin RJM, Bullmore ET (2017) Do not adjust your mind – the fault is in your glia. *Cell Stem Cell* 21: 155-156

Franklin RJM, ffrench-Constant (2017) Regenerating CNS myelin — from mechanisms to experimental medicines. *Nature Reviews Neuroscience* 18: 753-769.

McMurrin CE, Kodali S, Young A, **Franklin RJM** (2018) Clinical implications of myelin regeneration in the CNS. *Expert Review of Neurotherapeutics* 18: 111-123

Foerster S, Hill MFE, **Franklin RJM** (2019) Diversity in the oligodendrocyte lineage: plasticity or heterogeneity? *Glia*. In press

Current Grant Support

- *MS Society Cambridge Centre for Myelin Repair 3 - Multiple Sclerosis Society* Programme grant (50), (Principal Applicant plus 5 others), 01/06/16–31/05/20, £1,641,443.00,
- *Aging and remyelination - Adelsen Medical Research Foundation* 01/10/17-30/09/19 \$620,000
- “Seeing” brain stem cells - *Rosetrees Trust* 01/06/16-01/09/19, £199,710
- Age-related changes in alternative splicing in OPCs - *Biogen* 01/07/18-30/06/21, £591,058
- Imaging remyelination - *Biogen* 01/07/18-30/06/21, £592,000
- The engineered cell environment - *UK RMP*, 01/10/18-31/09/21, £460,906
- Imaging remyelination in the CNS - *UK MS Society*, 01/02/19-31/01/22, £282,280