Curriculum Vitae

Personal Details

Name Associate Professor Greg Sutherland
Qualifications BVSc PhD
Level of Appointment (A-E) D
Classification of Appointment (*40/40/20*)
Date of last promotion Jan 2018
Previous Appointments Senior lecturer Jan 2014 – Dec 2017; Lecturer May 2010 – Dec 2013
Theme Association Neuroscience Theme and Charles Perkins Centre

Overview: I am a research and teaching academic at the University of Sydney with an outstanding record of implementing interdisciplinary and collaborative initiatives within academia and beyond. Since promotion to Level D in 2018, my research funding and outputs have been on a steep upward trajectory with >$6m and 22 papers respectively. I am leader of the Brain and Body Research project node, Sydney Brainomics group leader and Director of the NIH-funded NSW Brain Tissue Resource Centre, all based at the Charles Perkins Centre. I use my varied professional background to prepare science, medical and allied health students for work force challenges with a commercially focused edge.

Teaching Activities (Last 3 Years)

Areas of Teaching Expertise BSc; *BAdvSci (Medical Sciences – Immunology and Pathology); MD; DMD; Master of Surgery*
Coordination Roles IMPA3888 (Design and coordination); PATH5000 (runs in S1 and S2)
Teaching Activities (and hours)
Lectures: MD (- 1 online), DMD- 2, CPAT 3201- 2, CPAT3202-6, PATH5000 - 2; ANAT3007-1
Tutorials: CPAT 3201- 1, CPAT3202- 3, IMPA3888 -13, CPAT3901- 1, CPAT3902 -1
Practs: CPAT 3201- 2, CPAT3202- 2
TBL: MD 1 (COVID) – 5 (Neuro Block)
Workshops: IMPA3888 - 13; Neuro Stage - 1 Remediation session.
Curriculum development: IMPA3888 – design and wider consultation for SoMS 3888 units; 2020 - new partnership and redesign 2021, and extending partnership with WIL (Sydney Business School) in 2022; MD (Neuro Block – Basic Sciences Co-Chair)
Lab stays: CPAT3901- 1, CPAT3902 -1

Honours student (last 5 years)
Jordan Kim (primary) 2020 (FC; now in USyD MD year 2)
Hugh Gallagher (primary) S1 2021- FC
Kristine Sohn (primary) S1 2021 – FC; now USyd DMD1)
Kristiane Dunbar (co-primary with Dr Kirsten Morley – S2 2021)

Daylell student
Joanna Skouteris (primary) S1 2022

Teaching Performance and Awards *(USS Scores, School, Faculty, University or level National awards)*
2017 Sydney Medical School Award for Outstanding Research and Teaching

Research (last 5 years, except publications)

Summary of research: My research concentrates on the pathogenesis of neurodegenerative diseases and I use a combination of molecular techniques in human post-mortem brain tissue along with data-based epidemiological and multi-omic studies using public data. I also use the latter to generate hypotheses for the former. My ethos is to collaborate widely and assemble evidence from a variety of sources. I am leader of the Brain and Body Research node, Neuropathology Research group leader and acting Director of the NIH-funded NSW Brain Tissue Resource Centre, all based at the Charles Perkins Centre.

Description of Research Team: (*Postdocs -2, Research Assistants -6 , HDR students (4; 3 PhD primary; 2-co-supervisor; 1 Masters) , Honours students - 1*

Collaborators:

2007 - Prof Jillian Kril, Professor of Neuropathology, Charles Perkins Centre (CPC); Co-Director NSWBTRC; Co-leader Neuropathology Research Group; Co AI/CI on Forefront NHMRC Program grant: HDR co-supervisor (x4; one completion); Twenty publications.

2007 – Prof Glenda Halliday, AI on Forefront program, co-publications; CABS Impact Centre (FMH)

2012- Prof Lars Ittner and Dr Janet van Eersel, Dementia Research Centre, Macquarie University: HDR student co-supervision (x1); NHMRC Project grant co-awardee. 3 publications including in *Science* (2016).

2012 - Prof Paul Witting: CPC; Completed HDR student co-supervision (x1); Mason Foundation grant co-awardee and two publications.

2015 - A/Prof Lezanne Ooi: University of Wollongong: HDR student co-supervision (x2); Brain Foundation grant co-awardee (2015); One publication

2015 - A/Prof Antony Cooper: Director of Neuroscience, Garvan Institute of Medical Research: RNA-Seq analysis of Alzheimer's disease; One publication.

2017 - A/Prof Michael Lardelli: University of Adelaide: Familial Alzheimer's disease (AD) and iron overload in AD. 3 publications.

2016 - Prof Manuel Graeber, Brain and Mind Centre; Microglia in health and disease; 3 publications

2016 - Prof Stuart Grieve; CPC: HDR student co-supervision (x1); One publication.

2017 - Dr Boris Guennewig and Dr Ellis Patrick: 'Sydney Brainomics' Group; HDR student co-supervision (x1); Two publications.

2018 - Dr Markus Hofer: School of Life and Environmental Sciences; One publication. HDR student co-supervision (x1)

2018 - Prof Greg Neely: CPC; Genomics screen of Parkinson's disease; Manuscript in review; Single cell sequencing and spatial transcriptomics of the human spinal cord in health and disease (new project within Single Cell Analysis node at CPC).

2019 - Prof Sharon Naismith; AI on Cogsleep (NHMRC Centre of Research Excellence). Metabolomics in AD; co-supervision of HDR students.

2019 - Prof Emmanuel Stamatakis: CPC; Epidemiology of dementia (using UK Biobank dataset). Manuscript in prep.

2022- A/Prof Anthony Don: CPC; New insights into how APOE genotype affects brain lipid homeostasis. Pending NHMRC Ideas grant.

International Collaborations

2013 Prof Maurice Curtis: University of Auckland, New Zealand; Cell Proliferation in the brains of chronic alcoholics. One publication. AUS/NZ Brain Banks collaboration
2015 - Prof Suzanne De La Monte: Brown University USA: Insulin signaling, white matter deficits in alcohol-related brain damage and Alzheimer's disease. 4 publications. Awarded NIAAA Research grant (11/03/2021).
2019 - Professor Russell Snell: University of Auckland, New Zealand. Better dementia management through identification of early biomarkers in middle-aged individuals. 3 previous publications.
2019 - Prof Fulton Crews: University of North Carolina at Chapel Hill, USA; Adolescent binge drinking and Alzheimer's disease pathology. The role of chronic alcohol abuse in dementia and Alzheimer's disease. Current NIH grant.
2020 – Prof Carlos Cruchaga, Oscar Harari, Bruno Benitez and Celeste Karch: Washington University, St Louis, USA. Single cell RNA sequencing of Alzheimer's disease. Current NIH grant and pending NHMRC Ideas grant.

Research Grants (last 5 years)

2021-2024	Co-PI. National Institute on Alcohol Abuse and Alcoholism (NIAAA): Pathogenesis of Early- Versus Late-Stage Alcohol-Mediated White Matter Degeneration. USD1.74M (awarded 110321). (Credit share 15%~ AU*$295K*)
2021	Co-PI: NIH (R56AG067764) – "*Brain Single-nuclei and iPS-derived cells transcriptomic analysis to define the contribution of neuronal and glial pathways in Alzheimer's disease"*. *USD719,094* (Credit share 15% ~AU$93K)
2021-2025	Co-PI: NIH (R01AA0028924) – "*Microglia Activation and TLR-induced Neurodegeneration by Alcohol Promotes Progression of Alzheimer Pathology*". *USD1.94M* (Credit share 10%)
2019-2023	Co-PI: National Institute on Alcohol Abuse and Alcoholism (USA) (R28AA012725). *"Brain Tissue Resource Centre for Alcohol Research". AU$3,450,000* (Credit share 100%)
2019 – 2023	Associate Investigator: NHMRC Centres of Research Excellence. Centre of Research Excellence to Optimise Sleep in Brain Ageing and Neurodegeneration (CogSleep). *$2,499,557.28*
2019	Sole CI: The University of Sydney Mid-Career Research Accelerator Fellowship. How lifestyle factors adversely affect healthy brain ageing". $150,000. (Credit share 100%)
2016	Co-App: Faculty of Science Strategic Research Initiative Scheme 2016; Network of Minds. $149,000 2019 -2020
2016	Sole CI: Inaugural Sydney Medical School Research Accelerator grant: Detection of lipid dyshomeostasis in brain diseases with MALDI Imaging. *$50,000* (Credit share 100%)
2016	Co-CI: The Medical Advances Without Animals (MAWA) Trust; Assessing protein level and distribution in Alzheimer's disease-affected human brains using matrix assisted laser desorption / ionization (MALDI) imaging mass spectrometry: A methodology to replace antibody-based protein imaging. *$40,000* (Credit share 100%)
2015 - 2016	CI: Sydney Medical School Foundation Fellowship; The microglial transcriptome in health and disease. *$60,000* (Credit share 100%)

Pending grant funding

2022	CIA. NHMRC Ideas grant. Sutherland, Harari and Benitez. "Single cell transcriptomics for uncovering new therapeutic targets in Alzheimer's disease".
2022	CIB. NHMRC Ideas grant. Don and Sutherland. "New insights into how APOE genotype affects brain lipid homeostasis".

Industry and Commercial Research

2021 Biogen Practitioner Education Series: "Brain banking for Alzheimer's disease" (pro bono)

Research Awards/Recognition

2015 Sydney Medical School Foundation Research Fellowship
2016 Inaugural Sydney Medical School Accelerator Fellowship
2017 Sydney Medical School Award for Outstanding Research and Teaching
2019 – 2020 University of Sydney Research Accelerator Fellowship (SOAR)

HDR Supervision

2022 Hamish Mundell, Primary, University of Sydney – 2022 R3 start
Sleep, APOE and Alzheimer's disease.
2021-2023 Daniel Crockford, Primary, University of Sydney (progressing); Masters (part-time)
Neuroimaging Biomarkers, sleep and dementia.
2018-2022 Caine Smith, Primary, University of Sydney (progressing); 5 Publications.
The pathogenesis of white matter dysfunction in neurodegenerative diseases.
2017- 2019 Patrick Paasila, Primary, University of Sydney. 4 Publications – *Successful –* return to WSU (MBBS); Embedded Hons in 2022.
The role of microglia in Alzheimer's disease.
2015→2022 Andrew McCorkindale, Primary, University of Sydney (progressing); 4 Publications
Using Machine Learning to understand the relationships between neuropathology and gene expression in Alzheimer's Disease (submission date 17/06/22)
2016→2019 Rachelle Balez: Co-supervisor, University of Wollongong (submitted March 2022);
The Effect of Liposome Treatment on Calcium Signalling and Nitric Oxide in Cholinergic neurons during Alzheimer's disease
2014→2019 Priscilla Youssef: Co-supervisor, University of Sydney – *Successful.*
A role for oxidative stress in the early pathogenesis of Alzheimer's Disease
2014→2021 Julia Lim: Primary, University of Sydney (discontinued Mar 2021; 3 Publications; 3rd Year MD, Notre Dame)
Investigating the role of Insulin Signalling in Alzheimer's disease
2014→2018 Lisa Suh: Primary, University of Sydney - discontinued candidature. 4 publications. *Induction of tau pathology in the hippocampus of the P301S mutant tau TAU58/2+ transgenic mouse model*
2012→2017 Claude Dennis: Primary, University of Sydney - *Successful*
The Role of Cell Proliferation in Hepatic Encephalopathy
2007→2010: Jeremy Newman: Co-supervisor; Griffith University, Australia - *Successful*
Identifying and Assessing Risk Factors for Idiopathic Dystonia

MSc & MPhil

2010→2014 4 students: two completions, one upgrade to PhD, one transfer to Medicine

Top 10 Research Outputs for Levels D and E.

h-index= **21**; total citations= **1377** (based on 56 publications; Scopus, April 2020; or H-Index 24; i10-index 39 and 1953 citations Google Scholar April 2022;)

1. Ittner …..Sutherland G et al. Site-specific phosphorylation of tau inhibits amyloid-β toxicity in Alzheimer's mice. Science. 2016 Nov 18;354(6314):904-908. SJR: 13.1 (2019) #1/358 journals (Cardiol); Cited 155x, FWCI:13.9 times world average, Altmetric: 825 (top 0.01%); A paradigm shifting study that that showed some phosphorylation of the protein tau was neuroprotective and prevented Aβ toxicity. I provided APOE-genotyped human tissue and contributed to the analysis.

2. Dennis …… Sutherland GT. Human adult neurogenesis across the ages: An immunohistochemical study. Neuropathol Appl Neurobiol. 2016 Dec;42(7):621-638. SJR 2022 = 2.54; Cited 141x. The first study to do a comprehensive lifespan study of neurogenesis in both the human SGZ and SVZ. It was controversial as it suggested that adult neurogenesis was a vestigial process, with proliferative events seen associated with microglia. Received Worldwide media attention including STAT, New Scientist, ABC as it coincided with other high-profile papers that found both concordant and discordant results.

3. Dennis CV, Sheahan PJ, Graeber MB, Sheedy DL, Kril JJ, Sutherland GT. Microglial proliferation in the brain of chronic alcoholics with hepatic encephalopathy. Metab Brain Dis. 2014 Dec;29(4):1027-39. SJR = 0.85. Cited 39x. First paper to show widespread microglial proliferation in human post-mortem tissue. This process seemed to be neuroprotective in HE but helped to dismiss the *idea that diminished neurogenesis was an issue in the pathogenesis of alcohol-related brain damage.*

4. Paasila PJ, Davies DS, Kril JJ, Goldsbury C, Sutherland GT. The relationship between the morphological subtypes of microglia and Alzheimer's disease neuropathology. Brain Pathol. 2019 Nov;29(6):726-740. SJR = 1.99. Cited 28x. This study showed that activated microglia were uncommon in the AD brain and seen more in non-demented individuals suggesting that these so-called 'pro-inflammatory' cells were more likely to be neuroprotective and disputing the role of neuroinflammation in AD.

5. Sutherland GT, Janitz M, Kril JJ. Understanding the pathogenesis of Alzheimer's disease: will RNA-Seq realize the promise of transcriptomics? J Neurochem. 2011 Mar;116(6):937-46. SJR = 1.75; Cited 49x. This popular preview of RNA sequencing studies in AD using human brain tissue introduced using differentially affected areas of the AD brain as a model of the natural history of the disease.

6. Matigian N, Abrahamsen G, Sutharsan R, Cook AL, Vitale AM, Nouwens A, Bellette B, An J, Anderson M, Beckhouse AG, Bennebroek M, Cecil R, Chalk AM, Cochrane J, Fan Y, Féron F, McCurdy R, McGrath JJ, Murrell W, Perry C, Raju J, Ravishankar S, Silburn PA, Sutherland GT, Mahler S, Mellick GD, Wood SA, Sue CM, Wells CA, Mackay-Sim A. Disease-specific, neurosphere-derived cells as models for brain disorders. Dis Model Mech. 2010;3(11-12):785-98. (SJR =. 2.3; Cited 144x). This was the first paper to report on difference in adult olfactory stem cell lines from Parkinson's disease and Schizophrenia. A paper that pre-dated the iPSC revolution in brain disease modelling.

7. Cook AL, Vitale AM, Ravishankar S, Matigian N, Sutherland GT, Shan J, Sutharsan R, Perry C, Silburn PA, Mellick GD, Whitelaw ML, Wells CA, Mackay-Sim A, Wood SA. NRF2 activation restores disease related metabolic deficiencies in olfactory neurosphere-derived cells from patients with sporadic Parkinson's disease. PLoS One. 2011;6(7):e21907. (SJR = 0.99; Cited 66x). This paper followed the Matigian et al. description of the olfactory stem cell lines by defining for the first-time metabolic deficits in cells derived from PD patients.

8. Sutherland GT, Matigian NA, Chalk AM, Anderson MJ, Silburn PA, Mackay-Sim A, Wells CA, Mellick GD. A cross-study transcriptional analysis of Parkinson's disease. PLoS ONE. 2009;4(3):e4955. (SJR = 0.99; Cited 70x). I led a multidisciplinary group to benchmark stem cells against other human expression data from PD patients. This was the first meta-analysis of PD genome-wide expression studies, and our recognition of relative neuronal loss has underpinned the brain regional comparative studies that my laboratory is known for since.

9. Sutherland GT, Halliday GM, Silburn PA, Mastaglia FL, Rowe DB, Boyle RS, O'Sullivan JD, Ly T, Wilton SD, Mellick GD. Do polymorphisms in the familial Parkinsonism genes contribute to risk for sporadic Parkinson's disease? Mov Disord. 2009;24(6):833-8. (SJR = 3.35; Cited 39x). Prior to genome-wide association studies, this paper reported on the widely held hypothesis that common variants in PARK

genes (mutations in which cause monogenic forms of PD) were risk factors for sporadic PD. As it turned out only 3/12 PARK genes examined affected PD risk. This has been replicated since in GWAS studies.

10. Ford C.A., Stanfield A.M., …. and Sutherland G.T. (2004) "Inherited Epidermolysis Bullosa Simplex in Friesian-Jersey Crossbred Cattle in New Zealand". J Invest Dermatol. 2005 Jun;124(6):1170-6. (SJR = 1.95; Cited 18x). Prior to completing my PhD, I managed veterinarians and commercial and academic scientists to find disease-associated mutations in dairy cattle. Our first paper, and associated patent described a large animal model for a devastating human skin disorder.

List of career publications

1. McCorkindale AN, Patrick E, Duce JA, Guennewig and Sutherland GT. The key factors predicting dementia in individuals with Alzheimer's disease-type pathology. (Frontiers Aging Neuroscience, accepted 24/3/22).
2. Paasila PJ, Aramideh JA, Sutherland GT, Graeber MB. Synapses, Microglia, and Lipids in Alzheimer's Disease. Front Neurosci. 2022 Jan 12;15:778822.
3. Smith CC, Sheedy DL, McEwen HP, Don AS, Kril JJ, Sutherland GT. Lipidome changes in alcohol-related brain damage. .J Neurochem. 2021 Oct 26.
4. O'Rourke MB, Viengkhou B, Smith CC, Sonderegger L, Padula MP, Sutherland GT, Hofer MJ, Crossett B. Matrix phase fractionation: Investigating the compromise between dynamic range of analyte extraction and spatial resolution in mass spectrometry imaging. Rapid Commun Mass Spectrom. 2021 Jun 15;35(13):e9106.
5. Parvaneh M, Witting PK, Ku J, Moradi T, Eroglu E, Freedman B, Sutherland GT, McCorkindale A, Guennewig B, Choowong P, Bell-Anderson K, Cooney G, Thomas SR, Eberhard Periodontitis induces endothelial dysfunction in mice. J.Sci Rep. 2021 Jul 22;11(1):14993. (1 citation; Scopus 23 March 2022)
6. Paasila PJ, Fok SYY, Flores-Rodriguez N, Sajjan SS, Dennis CV; Holsinger, D, Kril JJ, Becker T, Banati R, Sutherland GT, Graeber MB. Ground state depletion microscopy as a tool for studying microglia-synapse interactions. J Neurosci Res. 2021 Mar 7. (2 citations)
7. Guennewig B*, Lim J*, Marshall LL, McCorkindale AN, Paasila PJ, Halliday GM, Kril JJ, Cooper AS, Sutherland GT. Defining early changes in Alzheimer's disease from RNA sequencing of brain regions differentially affected by pathology Sci Rep. 2021 Mar 1;11(1):4865. (4 citations)
8. Rush A and Sutherland GT. The Future of Brain Banking in Australia: An Integrated Brain and Body Bio-library. Med J Aust. 2021 Jun;214(10):447-449.e1
9. Paasila P.J., Davies D, Sutherland GT, Goldsbury C. (2020). Clustering of activated microglia occurs before the formation of dystrophic neurites in the evolution of Aβ plaques in Alzheimer's disease. *Free Neuropathology*, *1*, https://doi.org/10.17879/freeneuropathology-2020-2845. (1 citation)
10. Newman M, Nik HM, Sutherland GT, Hin N, Kim WS, Halliday GM, Jayadev S, Smith C, Laird A, Lucas C, Kittipassorn T, Peet DJ, Lardelli M. Accelerated loss of hypoxia response in zebrafish with familial Alzheimer's disease-like mutation of Presenilin 1. Hum Mol Genet. 2020 Jun 26 (Online ahead of print) (6 citations).
11. Shen KK, Welton T, Lyon M, McCorkindale AN, Sutherland GT, Burnham S, Fripp J, Martins R, Grieve SM. Structural core of the executive control network: A high angular resolution diffusion MRI study. Hum Brain Mapp. 2020 Apr 1;41(5):1226-1236 (18 citations).
12. Ke YD, Chan G, Stefanoska K, Au C, Bi M, Müller J, Przybyla M, Feiten AF, Prikas E, Halliday GM, Piguet O, Kiernan MC, Kassiou M, Hodges JR, Loy CT, Mattick JS, Ittner A, Kril JJ, Sutherland G, Ittner LM. CNS cell-type specific gene profiling of P301S tau transgenic mice identifies genes dysregulated by progressive tau accumulation. J Biol Chem. 2019 Jul 31. (6 citations).
13. O'Rourke MB, Smith CC, De La Monte SM, Sutherland GT, Padula MP. Higher Mass Accuracy MALDI-TOF/TOF Lipid Imaging of Human Brain Tissue in Alzheimer's Disease. Curr Protoc Mol Biol. 2019 Apr;126(1):e86. doi: 10.1002/cpmb.86. Epub 2019 Feb 8. (3 citations)

14. Paasila PJ, Davies DS, Kril JJ, Goldsbury C, Sutherland GT. The relationship between the morphological subtypes of microglia and Alzheimer's disease neuropathology. Brain Pathol. 2019 Feb 25. (28 citations).
15. O'Rourke MB, Smith CC, Tse BCY, Sutherland GT, Crossett B, Padula MP. 'What did I do wrong?'An empirical evaluation of sample preparation methodologies in matrix-assisted laser desorption/ionization-mass spectrometry imaging. Future Science OA 5 (4), FSO362. (2 citations)
16. Lumsden AL, Rogers JT, Majd S, Newman M, Sutherland GT, Verdile G, Lardelli M. Dysregulation of Neuronal Iron Homeostasis as an Alternative Unifying Effect of Mutations Causing Familial Alzheimer's Disease. Front Neurosci.2018;12:533. (24 citations).
17. Morley KC, Baillie A, Van Den Brink W, Chitty KE, Brady K, Back SE, Seth D, Sutherland G, Leggio L, Haber PS. N-acetyl cysteine in the treatment of alcohol use disorder in patients with liver disease: Rationale for further research. Expert Opin Investig Drugs. 2018 Aug;27(8):667-675. (IF^{2018} 3.9; Citation = 6).
18. Youssef P, Chami B, Lim J, Middleton T, Sutherland GT, Witting PK. Evidence supporting oxidative stress in a moderately affected area of the brain in Alzheimer's disease. Sci Rep. 2018 Aug 1;8(1):11553. (34 citations).
19. McCorkindale AN, Sizemova A, Sheedy D, Kril JJ, Sutherland GT. Re-investigating the effects of chronic smoking on the pathology of alcohol-related human brain damage. Alcohol. 2018 Jul 11;76:11-14. (4 citations).
20. Littlejohn MD, Turner SA, Walker CG, Berry SD, Tiplady K, Sherlock RG, Sutherland G, Swift S, Garrick D, Lacy-Hulbert SJ, McDougall S, Spelman RJ, Snell RG, Hillerton JE. Identification of an immune modulation locus utilising a bovine mammary gland infection challenge model. J Dairy Res. 2018 May;85(2):185-192. (1 citation).
21. O'Rourke MB, Padula MP, Smith C, Youssef P, Cordwell S, Witting P, Sutherland G, Crossett B. Optimal Preparation of Formalin Fixed Samples for Peptide Based Matrix Assisted Laser Desorption/Ionization Mass Spectrometry Imaging Workflows. J Vis Exp. 2018 Jan 16;(131). (3 citations).
22. Dennis CV, Suh LS, Rodriguez ML, Kril JJ, Sutherland GT. Response to: Comment on 'Human adult neurogenesis across the ages: An immunohistochemical study'. Neuropathol Appl Neurobiol. 2017 Aug;43(5):452-454. (1 citation).
23. de la Monte SM, Kay J, Yalcin EB, Kril J, Sheedy D, Sutherland GT. Imaging mass spectrometry of frontal white matter lipid changes in human alcoholics. Alcohol. 2018 Mar;67:51-63. (15 citations).
24. Sutherland GT, Lim J, Srikanth V and Bruce DG. Epidemiological approaches to understanding the link between type 2 diabetes and dementia. J. Alzheimer's Disease 2017;59(2):393-403. (24 citations).
25. Ittner A, Chua SW, Bertz J, Volkerling A, van der Hoven J, Gladbach A, Przybyla M, Bi M, van Hummel A, Stevens CH, Ippati S, Suh LS, Macmillan A, Sutherland G, Kril JJ, Silva AP, Mackay J, Poljak A, Delerue F, Ke YD, Ittner LM. Site-specific phosphorylation of tau inhibits amyloid-β toxicity in Alzheimer's mice. Science. 2016 Nov 18;354(6314):904-908. (155 citations).
26. Papp-Peka A, Tong M, Kril JJ, De La Monte SM, Sutherland GT. The Differential Effects of Alcohol and Nicotine-Specific Nitrosamine Ketone on White Matter Ultrastructure. Alcohol and Alcoholism 52 (2), 165-171 (10 citations).
27. Dennis CV, Suh LS, Rodriguez ML, Kril JJ, Sutherland GT. Human adult neurogenesis across the ages: An immunohistochemical study. Neuropathol Appl Neurobiol. 2016 Dec;42(7):621-638. (141 citations).
28. Jayne T, Newman M, Verdile G, Sutherland G, Münch G, Musgrave I, Moussavi Nik SH, Lardelli M. Evidence for and against a pathogenic role of reduced γ-secretase activity in familial Alzheimer's disease. J Alzheimers Dis. 2016 Apr 4;52(3):781-99. (26 citations).
29. McCorkindale A, Sheedy D, Kril JJ, Sutherland GT. The effects of chronic smoking on the pathology of alcohol-related brain damage. Alcohol. 2016 Jun;53:35-44. (9 citations).
30. Sutherland GT, Sheedy D, Stevens J, McCrossin T, Smith CC, van Roijen M, Kril JJ. The NSW brain tissue resource centre: Banking for alcohol and major neuropsychiatric disorders research. Alcohol. 2016 May;52:33-9. (14 citations).

31. Chami B, Steel AJ, De La Monte SM, Sutherland GT. The rise and fall of insulin signaling in Alzheimer's disease. Metab Brain Dis. 2016 Jun;31(3):497-515. (35 citations).
32. van Eersel J, Stevens CH, Przybyla M, Gladbach A, Stefanoska K, Chan CK, Ong WY, Hodges JR, Sutherland GT, Kril JJ, Abramowski D, Staufenbiel M, Halliday GM, Ittner LM. Early-onset Axonal Pathology in a Novel P301S-Tau Transgenic Mouse Model of Frontotemporal Lobar Degeneration. Neuropathol Appl Neurobiol. 2015 Dec;41(7):906-25. (30 citations).
33. Sutherland GT, Sheedy D, Sheahan PJ, Kaplan W, Kril JJ. Comorbidities, Confounders, and the White Matter Transcriptome in Chronic Alcoholism. Alcohol Clin Exp Res. 2014 Apr;38(4):994-1001. (14 citations).
34. Sutherland GT, Sheedy D, Kril JJ. Using autopsy brain tissue to study alcohol-related brain damage in the genomic age. Alcohol Clin Exp Res. 2014;38(1):1-8. (26 citations).
35. Newman JR, Todorovic M, Silburn PA, Sutherland GT, Mellick GD. Lack of reproducibility in re-evaluating associations between GCH1 polymorphisms and Parkinson's disease and isolated dystonia in an Australian case--control group. Parkinsonism & related disorders. 2014;20(6):668-70. (8 citations).
36. Mills JD, Sheahan PJ, Lai D, Kril JJ, Janitz M, Sutherland GT. The alternative splicing of the apolipoprotein E gene is unperturbed in the brains of Alzheimer's disease patients. Molecular biology reports. 2014;41(10):6365-76. (8 citations).
37. Dennis CV, Sheahan PJ, Graeber MB, Sheedy DL, Kril JJ, Sutherland GT. Microglial proliferation in the brain of chronic alcoholics with hepatic encephalopathy. Metabolic brain disease. 2014;29(4):1027-39. (39 citations).
38. Sutherland GT, Sheahan PJ, Matthews J, Dennis CV, Sheedy DS, McCrossin T, Curtis MA, Kril JJ. The effects of chronic alcoholism on cell proliferation in the human brain. Experimental neurology. 2013;247:9-18. (30 citations).
39. Sutherland GT, Chami B, Youssef P, Witting PK. Oxidative stress in Alzheimer's disease: Primary villain or physiological by-product? Redox report: communications in free radical research. 2013;18(4):134-41. (54 citations).
40. Ooi L, Sidhu K, Poljak A, Sutherland G, O'Connor MD, Sachdev P, Münch G. Induced pluripotent stem cells as tools for disease modelling and drug discovery in Alzheimer's disease. J Neural Transm. 2013;120(1):103-11. (32 citations).
41. Sutherland GT, Siebert GA, Kril JJ, Mellick GD. Knowing me, knowing you: can a knowledge of risk factors for Alzheimer's disease prove useful in understanding the pathogenesis of Parkinson's disease? J Alzheimers Dis. 2011;25(3):395-415. (21 citations).
42. Sutherland GT, Janitz M, Kril JJ. Understanding the pathogenesis of Alzheimer's disease: will RNA-Seq realize the promise of transcriptomics? J Neurochem. 2011;116(6):937-46. (48 citations).
43. Newman JR, Sutherland GT, Boyle RS, Limberg N, Blum S, O'Sullivan JD, Silburn PA, Mellick GD. Common polymorphisms in dystonia-linked genes and susceptibility to the sporadic primary dystonias. Parkinsonism Relat Disord. 2014 Jun;20(6):668-70. (1 citations).
44. Cook AL, Vitale AM, Ravishankar S, Matigian N, Sutherland GT, Shan J, Sutharsan R, Perry C, Silburn PA, Mellick GD, Whitelaw ML, Wells CA, Mackay-Sim A, Wood SA. NRF2 activation restores disease related metabolic deficiencies in olfactory neurosphere-derived cells from patients with sporadic Parkinson's disease. PLoS One. 2011;6(7):e21907. (70 citations).
45. Mellick GD, Silburn PA, Sutherland GT and Siebert GA. Exploiting the potential of molecular profiling in Parkinson's disease: current practice and future probabilities. Expert Rev Mol Diagn. 2010;10(8):1035-50. (14 citations).
46. Matigian N, Abrahamsen G, Sutharsan R, Cook AL, Vitale AM, Nouwens A, Bellette B, An J, Anderson M, Beckhouse AG, Bennebroek M, Cecil R, Chalk AM, Cochrane J, Fan Y, Féron F, McCurdy R, McGrath JJ, Murrell W, Perry C, Raju J, Ravishankar S, Silburn PA, Sutherland GT, Mahler S, Mellick GD, Wood SA, Sue CM, Wells CA, Mackay-Sim A. Disease-specific, neurosphere-derived cells as models for brain disorders. Dis Model Mech. 2010;3(11-12):785-98. (143 citations).
47. Sutherland GT, Matigian NA, Chalk AM, Anderson MJ, Silburn PA, Mackay-Sim A, Wells CA, Mellick GD. A cross-study transcriptional analysis of Parkinson's disease. PLoS ONE. 2009;4(3):e4955. (70 citations).

48. Sutherland GT, Halliday GM, Silburn PA, Mastaglia FL, Rowe DB, Boyle RS, O'Sullivan JD, Ly T, Wilton SD, Mellick GD. Do polymorphisms in the familial Parkinsonism genes contribute to risk for sporadic Parkinson's disease? Mov Disord. 2009;24(6):833-8. (39 citations).
49. Sutherland GT, Siebert GA, Newman JR, Silburn PA, Boyle RS, O'Sullivan JD, Mellick GD. Haplotype analysis of the PARK 11 gene, GIGYF2, in sporadic Parkinson's disease. Mov Disord. 2009;24(3):449-52. (20 citations).
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52. Sutherland G, Mellick G, Sue C, Chan DK, Rowe D, Silburn P, Halliday G. A functional polymorphism in the parkin gene promoter affects the age of onset of Parkinson's disease. Neurosci Lett. 2007;414(2):170-3. (11 citations).
53. Ford CA, Stanfield AM, Spelman RJ, Smits B, Ankersmidt-Udy AE, Cottier K, Holloway H, Walden A, Al-Wahb M, Bohm E, Snell RG, Sutherland GT. A mutation in bovine keratin 5 causing epidermolysis bullosa simplex, transmitted by a mosaic sire. J Invest Dermatol. 2005;124(6):1170-6. (20 citations).
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55. <u>Publications as collaborator with GEO-PD Consortium</u>
(Not included in my H-index calculation)
56. Wang L, Aasly JO, Annesi G, Bardien S, Bozi M, Brice A, Carr J, Chung SJ, Clarke C, Crosiers D, Deutschländer A, Eckstein G, Farrer MJ, Goldwurm S, Garraux G, Hadjigeorgiou GM, Hicks AA, Hattori N, Klein C, Jeon B, Kim YJ, Lesage S, Lin JJ, Lynch T, Lichtner P, Lang AE, Mok V, Jasinska-Myga B, Mellick GD, Morrison KE, Opala G, Pihlstrøm L, Pramstaller PP, Park SS, Quattrone A, Rogaeva E, Ross OA, Stefanis L, Stockton JD, Silburn PA, Theuns J, Tan EK, Tomiyama H, Toft M, Van Broeckhoven C, Uitti RJ, Wirdefeldt K, Wszolek Z, Xiromerisiou G, Yueh KC, Zhao Y, Gasser T, Maraganore DM, Krüger R, Sharma M; GEO-PD Consortium. Large-scale assessment of polyglutamine repeat expansions in Parkinson disease. Neurology. 2015 Oct 13;85(15):1283-92. (14 citations)
57. Sharma M, Ioannidis JP, Aasly JO, Annesi G, Brice A, Van Broeckhoven C, Bertram L, Bozi M, Crosiers D, Clarke C, Facheris M, Farrer M, Garraux G, Gispert S, Auburger G, Vilariño-Güell C, Hadjigeorgiou GM, Hicks AA, Hattori N, Jeon B, Lesage S, Lill CM, Lin JJ, Lynch T, Lichtner P, Lang AE, Mok V, Jasinska-Myga B, Mellick GD, Morrison KE, Opala G, Pramstaller PP, Pichler I, Park SS, Quattrone A, Rogaeva E, Ross OA, Stefanis L, Stockton JD, Satake W, Silburn PA, Theuns J, Tan EK, Toda T, Tomiyama H, Uitti RJ, Wirdefeldt K, Wszolek Z, Xiromerisiou G, Yueh KC, Zhao Y, Gasser T, Maraganore D, Krüger R; GEO-PD Consortium. Large-scale replication and heterogeneity in Parkinson disease genetic loci. Neurology. 2012;79(7):659-67. (114 citations).
58. Ross OA, Soto-Ortolaza AI, Heckman MG, Aasly JO, Abahuni N, Annesi G, Bacon JA, Bardien S, Bozi M, Brice A, Brighina L, Van Broeckhoven C, Carr J, Chartier-Harlin MC, Dardiotis E, Dickson DW, Diehl NN, Elbaz A, Ferrarese C, Ferraris A, Fiske B, Gibson JM, Gibson R, Hadjigeorgiou GM, Hattori N, Ioannidis JP, Jasinska-Myga B, Jeon BS, Kim YJ, Klein C, Kruger R, Kyratzi E, Lesage S, Lin CH, Lynch T, Maraganore DM, Mellick GD, Mutez E, Nilsson C, Opala G, Park SS, Puschmann A, Quattrone A, Sharma M, Silburn PA, Sohn YH, Stefanis L, Tadic V, Theuns J, Tomiyama H, Uitti RJ, Valente EM, van de Loo S, Vassilatis DK, Vilariño-Güell C, White LR, Wirdefeldt K, Wszolek ZK, Wu RM, Farrer MJ; Genetic Epidemiology Of Parkinson's Disease (GEO-PD) Consortium. Association of LRRK2 exonic variants with susceptibility to Parkinson's disease: a case-control study. The Lancet Neurology. 2011;10(10):898-908. (206 citations).
59. Elbaz A, Ross OA, Ioannidis JP, Soto-Ortolaza AI, Moisan F, Aasly J, Annesi G, Bozi M, Brighina L, Chartier-Harlin MC, Destée A, Ferrarese C, Ferraris A, Gibson JM, Gispert S, Hadjigeorgiou GM, Jasinska-Myga B, Klein C, Krüger R, Lambert JC, Lohmann K, van de Loo S, Loriot MA, Lynch T, Mellick GD, Mutez E, Nilsson C, Opala G, Puschmann A, Quattrone A, Sharma M, Silburn PA, Stefanis L, Uitti

RJ, Valente EM, Vilariño-Güell C, Wirdefeldt K, Wszolek ZK, Xiromerisiou G, Maraganore DM, Farrer MJ; Genetic Epidemiology of Parkinson's Disease (GEO-PD) Consortium. Independent and joint effects of the MAPT and SNCA genes in Parkinson disease. Annals of neurology. 2011;69(5):778-92. (29 citations).

60. Krüger R, Sharma M, Riess O, Gasser T, Van Broeckhoven C, Theuns J, Aasly J, Annesi G, Bentivoglio AR, Brice A, Djarmati A, Elbaz A, Farrer M, Ferrarese C, Gibson JM, Hadjigeorgiou GM, Hattori N, Ioannidis JP, Jasinska-Myga B, Klein C, Lambert JC, Lesage S, Lin JJ, Lynch T, Mellick GD, de Nigris F, Opala G, Prigione A, Quattrone A, Ross OA, Satake W, Silburn PA, Tan EK, Toda T, Tomiyama H, Wirdefeldt K, Wszolek Z, Xiromerisiou G, Maraganore DM; Genetic Epidemiology of Parkinson's disease consortium. A large-scale genetic association study to evaluate the contribution of Omi/HtrA2 (PARK13) to Parkinson's disease. Neurobiology of aging. 2011;32(3):548 e9-18. (92 citations).
61. Evangelou E, Maraganore DM, Annesi G, Brighina L, Brice A, Elbaz A, Ferrarese C, Hadjigeorgiou GM, Krueger R, Lambert JC, Lesage S, Markopoulou K, Mellick GD, Meeus B, Pedersen NL, Quattrone A, Van Broeckhoven C, Sharma M, Silburn PA, Tan EK, Wirdefeldt K, Ioannidis JP; Genetic Epidemiology of Parkinson's Disease (GEOPD) Consortium. Non-replication of association for six polymorphisms from meta-analysis of genome-wide association studies of Parkinson's disease: large-scale collaborative study. Am J Med Genet B Neuropsychiatr Genet. 2010;153B(1):220-8. (30 citations).

Textbook chapters

62. Sutherland GT, Sidhu KS. (2012) Pluripotent Stem Cells for (Neurodegenerative) Disease Modelling. In: *Frontiers in Pluripotent Stem Cells Research and Therapeutic Potentials* (pp.205-219). Bentham Press, UK.
63. Sutherland G, Kril J. (2012), Alzheimer's Disease: Approaches to Pathogenesis in the Genomic Age. In: *Neuroscience - Dealing With Frontiers*. (pp.389-428). InTech, Croatia. (A 'Selected Chapter' downloaded 2605x, March 2022).

Patents

Russell Grant Snell, Christine Ann Ford, Greg Trevor Sutherland, Angela Marie Stanfield, Richard John Spelman and Alexandra Elisabeth Louise Ankersmit-Udy. New Zealand Patent Application No. 525023. (2004). A Bovine Genotyping Test.

Governance, Leadership and Engagement

SOMS Roles Committees

2021 –	SoMS High School Outreach Committee; part of External Partnerships
2019 – 2020	SoMS Academic Lead
2019 -	Chair – HDR APR (PEM) committees (x8)
2019 –	Member: Year 1 SoMS - MD working party (as Pathology coordinator and Co-Chair (Block 6)); coordinate and develop basic science teaching in new MD program
2019 –	Member: SoMS Education Working Group; Oversight of Teaching in SoMS
2018 –	Chair: Sydney Medical School Clinical Pathology Working group; develop and coordinate clinical teaching across new MD program

FMH Roles and Committees (*Role and achievements, including Student life, MD interviews and admissions, benefit to School and Faculty – 2 lines of text per role)*

2019 -	Member" FMH Biobanking Committee – responsibility for brain banking.
2019 –	Member: Interdisciplinary Education in Health Committee; Oversight of IPL activities, along with development of inter-school (FMH) and inter-faculty education
2019 –	Member: Interprofessional Learning (IPL, now CHES) and Teaching Sub-committee; Delivery of IPL activities including Health Collaboration Challenge (HCC), IPL Introductory workshop, Staff IPL workshop and IPL ePassport

2019 – 2020 Member: FMH Education Committee; Teaching governance including resolutions, strategy, oversight of new Units of Study, teaching delivery, assessment, feedback and quality
2019 Member: FMH Change Management Working Group (Education)
2019 Volunteer Open day: FMH
2019 Tutor Health Collaborative Challenge: FMH
2019 Learning Advisor: SMP
2016 Member: SMP Student Outcomes Milestone Statements working party
2017 Member: SMP Assessment Sub-Committee

USYD Roles and Committees (last 5 years)

2017- 2019 Member: University of Sydney Animal Ethics Committee
2015 - 2017 Member: Charles Perkins Centre (CPC) Operations Executive Committee
2015 - 2017 Chair: L6W CPC Research Advisory group

Clinical Responsibilities *(LAH affiliation and responsibilities)*

Mentoring (*School, Faculty, External mentoring activities*)

Research: Ellis Patrick (Maths and Stats) and Boris Guennewig (BMC; neuropathology, grant writing); Dr Lipin Loo (Node establishment)
Teaching: Eleanor Drummond (BMC)

External Roles

2021 – Director: New South Wales Brain Tissue Resource Centre (NSWBTRC). Australia's only externally (NIH)-funded brain bank. I manage 7 staff, 2 part-time PhD students enrolled in SoMS, > 500 brains. Tissue provides projects for 5 HDR and 3 Honours students at present with five publications in 2021. Overall, NSW BTRC tissue has been included in > 565 publications including two Science papers with >21K citations.

2021 – Member: Editorial Board - International Journal of Molecular Science (IF = 5) and Special Issue Editor. A new role and soon to be released Special Issue entitled "Alzheimer's disease: From Molecular Basis to Therapy" + manuscript reviews.

2019 - Acting Director: NSWBTRC. Managed while Prof Jillian Kril was on long-service leave.

2019 - Member of NSWBTRC Scientific Advisory Committee. Reviews and approves all NIH-funded applications for tissue. All other members are in US and chaired by NIAAA program office

2018 Member: DANDiS Organising Committee; (Neurodegenerative disease research group of the Australasian Neuroscience Society and also Plenary talk at 2019 meeting in Adelaide).

2017 Co-convener: Australasian Neuroscience Society Annual Scientific Meeting, Sydney, 2017. Part of the local organizing committee and responsible for sponsorships, abstract review, program, venue negotiations.

2016 - 2019 Deputy Director: NSWBTRC. Transient manager of bank. Represented bank at community talks and international conferences e.g. Research Society on Alcoholism.

2016 - Member: NSWBTRC Management Committee. Met annually to provide oversight for Bank activities here and abroad, and ongoing association with local and National Brain Bank Networks.

2014 – 16 Member: NSWBB Scientific Advisory Board.

2014 - 2016 Member: Scientific Advisory Board of Monkey Alcohol Tissue Research Resource (Portland, USA). Alternated with Prof Jillian Kril to provide human tissue expertise to a primate tissue facility in Oregon, US.

2015 - Member: Editorial Board – *Alcohol.* Manuscript reviews and Board meetings annually (US).

Reviewing Activities (*NHMRC, ARC, Other funding bodies, Scientific Journals*)

Peer-Review for Journals

incl. PLoS Genetics (1), Science Advances (1), Molecular Psychiatry (1), Neurobiology of Disease (3), PLoS One (3), BMC Neurology (2), Journal of Alzheimer's disease (5), Alcohol (14); IJMS (5).

Academic Referee / Grants Assessment

2019→ CogSleep: Post-doctoral Fellowships (3) and Doctoral Scholarships (3)
2018→ Charles Perkins Centre ECR Fellowships and Conference abstracts (8)
2010 – 2018 External assessor: NHMRC Project grants (11)
2015→ Maurice and Phyllis Paykel Trust, New Zealand (1)
2014→ Alzheimer's Australia Dementia Research Foundation (3)
2013→ Israel Science Foundation (5)
2013→ Parkinson's UK (3)
2012→ Italian Telethon (1)
2012→ Portuguese Foundation for Science (1)

Thesis Examiner

2021 PhD – Zachary Moore, Microglia and type-I interferons: emerging actors in Alzheimer's disease

University of Melbourne.

2020 PhD - Investigating Alzheimer's Disease using Zebrafish Genetic Models, Yang Dong. University of Adelaide.

2019 Masters of Medical Research- Investigating the effects of genetic variability in mir-146a and its expression in the brain of human alcoholics. Carol Naidu, Griffith University, Gold Coast.

2017 PhD - Exome sequencing applied to discover variants in autism spectrum disorder and neurodevelopmental conditions. Brendan Swan, University of Auckland, New Zealand.

2015 PhD – Analysis of the subcellular localization of proteins implicated in Alzheimer's disease. Annie Lim, University of Adelaide.

2014 PhD – Molecular Analysis of the X-linked CMT(CMTX3) disease locus using NGS. Rabia Chaudhry, University of Sydney

2009 PhD – Genetic Risk Factors in Parkinson's disease. Daniel Buchanan, University of Queensland