

Academic CV: A/Professor Peter G. Noakes, B.Sc. (Hons), Ph.D.

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Current positions and affiliations:

- * President Brisbane Chapter for Society for Neuroscience USA; A/Professor School of Biomedical Sciences;
- * Affiliate Professor Queensland Brain Institute; University of Queensland, St. Lucia, QLD 4072. Visiting * * *
- * Professor/Research Fellow– Department of Neurology, Royal Brisbane and Women's Hospital, Herston.
- * Program Director for the Bachelor of Biomedical Sciences University of Queensland.
- * In-coming chairman (2015) of Postgraduate studies School of Biomedical Sciences, University of Queensland.

Research Excellence:

A/ Prof Peter Noakes is Full time Teaching and Research Academic who teaches cell and molecular neuroscience to medical and science students. Dr Noakes was one of the first to demonstrate directly in the living animal that the synaptic laminins, agrin and rapsyn, are needed for the formation of neuromuscular synapses. This was achieved by inactivating the genes that encode for these molecules in mice, and his first authored seminal papers in *Nature*, *Nature Genetics* and *Cell* were some of the first to use this approach to study the cellular and molecular mechanisms of synapse formation. These papers have been very highly cited (>300 times) and have been responsible for driving the recent scientific advances in molecular dissection of synaptic (neuronal) function in the neurosciences. He continues to make significant contributions to the cellular and molecular mechanisms that underlie motor neuron development in both health and disease. His research excellence is evident by:

- Senior corresponding author publications in *Proc. Natl. Acad. Sci. USA* (2014), *Brain Struct. Funct.* (2013), *J. Neuroinflamm.* (2013); *J. of Cell Sci.* (2012), *J. Immunol.* (2008; editorial), *Neuron* (2007), *Mol Cellular Biology* (2007), *J. Neurosci* (2005); *Dev. Biol.* (2003, awarded 2005 Paxonos-Watson Prize by Australian Neuroscience. Society), and *J Physiol* (2003).
- Metrics: He has been cited 3,439 times and has an *h*-index of 25 (Google scholar 25/08/14). He has produced 68 total career publications; this includes 53 journal articles, 6 reviews, 3 book chapters, and 6 peer reviewed published conference articles.
- His research has also been cited in the major neuroscience textbooks such as "Principles of Neural Science 4th (2000), and 5th (2012) Editions " by Kandel, Schwartz, Jessell et al.
- Publication highlights: *Cell* 1996 [Cited 729], *Nature* 1995 [Cited 458], *Nature Genetics* 1995 [Cited 330], *Nature* 1995 [Cited 366], *Dev Biol.* 1996 [Cited 181], *Cell Commun. Adh* 1994 [Cited 114], *J. Cell Biol.* 1993 [Cited 106], *Mol. Cell Biol.* 2005 [Cited 118], *J. Physiol.* 2003 [45], *Neuron* 2007 [Cited 58], *J. Immunol.* 2008 [45], *J. Am. Chem. Soc.* 2010 [45], *Neuromol. Med* 2010 [46]. *Int. J Biochem. Cell Biol.* 2011 [21]. (Google scholar 25/08/14).
- Grants: recent successes include: NHMRC-Australia Project grants (2 as CIB in 2013), and one Motor Neuron Disease Research Institute Australia (2014). Total research grant income 2011-2013 = \$2,384,678 (AUD)

Evidence of high standing nationally and internationally:

- Invited Faculty member, ISN Advanced School for the International Society for Neurochemistry 2014-2015. "Synaptopathies: synaptic molecules with clinical implications". Fitzroy Island Queensland.
- Invited Session speaker 9th, International Motor Neuron Meeting, Halifax, Canada 2014.
- Invited Speaker: 7th A+PD symposium, Brisbane, 2013.
- Invited Speaker: 8th International Motor Neuron Meeting, Sydney 2012
- Invited Speaker Session 111: Synapse, Synaptogenesis, Synapse Formation Elimination – BIT's 3rd World Congress NeuroTalk-2012, Beijing, China.
- Invited Session Speaker - Neuronal polarity in health and disease role of cytoskeleton and vesicular trafficking Australian Neuroscience Society Satellite Meeting 2012.
- Plenary Speaker – 17th Annual NSW Cell and Developmental Biology Meeting 2011.
- Invited symposium speaker at the International Peripheral Nerve Society, (Sydney, 2010).
- Co-convenor for the Australian Neuroscience Society sponsored satellite meeting on Motor Neuron Disease, University of Queensland 2010.

Contribution to Discipline:

- NHMRC GRP panel member Cell and Molecular Neurosci., 2006, 2007, and 2010 and 2011.
- Grant Reviewer for NHMRC (projects and CDA awards), ARC (projects and fellowships).

Research Training and Administration:

- Dr Noakes is full time Teaching and Research Academic who teaches cell and molecular neuroscience to medical and science students, as well as cell and integrative physiology to medical and physiotherapy students.

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- Successful supervision of 2 M.Sc., 10 PhD students, and 26 Honours students (including 1 university of medal winner). Including 2 PhD students who have obtained post-doctoral fellowships, G. Banks C.J. Martin Fellowship, and S. Ngo MNDRI fellowship. Currently supervising 4 PhD students, and 3 Honours students.

A/Professor Peter G. NOAKES - Publications in the last five years:

Mantovani S, Gordon R, MacMaw JK, Plfluguer CMM, Henderson RD, Noakes PG, McCombe PA and Woodruff TM. Elevation of the terminal complement activation products C5a and C5b-9 in ALS. **J. Neuroimmunol.** (Accepted 18th September, 2014 Article No:475992)

Woodruff TM, Lee JD, **Noakes PG.** Role for terminal complement activation in amyotrophic lateral sclerosis disease progression. **Proc Natl Acad Sci U S A.** (2014) Jan 7;111(1):E3-4.

Fogarty MJ, Yanagawa Y, Obata K, Bellingham MC, **Noakes PG.** Genetic absence of the vesicular inhibitory amino acid transporter differentially regulates respiratory and locomotor motor neuron development. **Brain Struct Funct.** (2013) Nov 26. [Epub ahead of print] PMID: 24276495

Fogarty MJ, Hammond LA, Kanjhan R, Bellingham MC, **Noakes PG.** A method for the three-dimensional reconstruction of Neurobiotin™-filled neurons and the location of their synaptic inputs. **Front Neural Circuits.** (2013) Oct 1;7:153. doi: 10.3389/fncir.2013.00153.

Lee JD, Kamaruzaman NA, Fung JN, Taylor SM, Turner BJ, Atkin JD, Woodruff TM, **Noakes PG.** Dysregulation of the complement cascade in the hSOD1G93A transgenic mouse model of amyotrophic lateral sclerosis. **J Neuroinflammation.** (2013) Sep 26;10:119. Cited 5 times.

Fogarty MJ, Smallcombe KL, Yanagawa Y, Obata K, Bellingham MC, **Noakes PG.** Genetic deficiency of GABA differentially regulates respiratory and non-respiratory motor neuron development. **PLoS One.** (2013) ;8(2):e56257. Cited 4 times.

Narayanan RK, Mangelsdorf M, Panwar A, Butler TJ, **Noakes PG,** Wallace RH. Identification of RNA bound to the TDP-43 ribonucleoprotein complex in the adult mouse brain. **Amyotroph Lateral Scler Frontotemporal Degener.** (2013) May;14(4):252-60. Cited 5 times.

Lee JD, Lee JY, Taylor SM, **Noakes PG** and Woodruff TM. Innate Immunity in ALS **Amyotrophic Lateral Sclerosis**, Editor Mh Maurer. (2012) pp: 393-412. Cited 3 times

Ngo, S.T., Cole, R.N., Sunn, N., Phillips, W.D. and **Noakes, PG.** Neuregulin potentiates agrin-induced acetylcholine receptor clustering via muscle specific kinase phosphorylation. **Journal of Cell Science** (2012) 125: 1531-1543. IF 6.3, Cited 9 times.

Ghazanfari N, Fernandez KJ, Murata Y, Morsch M., Ngo ST, Reddel SW, **Noakes PG,** Phillips WD. Muscle Specific Kinase: Organiser of synaptic membrane domains. **International Journal of Biochemistry and Cell Biology** (2011) 43:295-298. Cited 6 times.

Wood TM, Ager RR, Tenner AJ, **Noakes PG** and Taylor SM. The role of the complement system and the activation fragment C5a in the central nervous system. **NeuroMol. Med.** (2010) 12:179-192. Cited 13 times.

Kanjhan R, Pow DV, **Noakes PG,** Bellingham MC. The two-pore domain K⁺ channel TASK-1 is closely associated with brain barriers and meninges. **Journal of Molecular Histology** (2010) 41: 315-323.

Muttenthaler, M.;Nevin, S.T.; Grishin A.A.;Ngo, S.T.; Choy, P.T.;Daly N.L.; Hu, S-H,; Armishaw C.J.; Wang, C-I; Lewis, R.J.; Martin J.L.; **Noakes, P.G.;** Craik, D.J.; Adams, D.J.; Alewood, P.F. Solving the alpha-conotoxin folding problem: efficient selenium-directed on-resin generation of more potent and stable nicotinic acetylcholine receptor antagonists. **Journal of the American Chemical Society** (2010) 132: 3514-3522 I.F. 9.2, Cited 20 times.

Azhar M, Wang PY, Frugier T, Koishi K, Deng C, **Noakes PG,** McLennan IS. Myocardial deletion of Smad4 using a novel α skeletal muscle actin Cre recombinase transgenic mouse causes misalignment of the cardiac outflow tract. **International Journal of Biological Science** (2010) 6: 546-555. Cited 13 times.

Barclay JL, Kerr LM, Arthur L, Rowland JE, Nelson CN, Ishikawa M, d'Aniello EM, White M, **Noakes P G,** Waters, M. J. In Vivo Targeting of the Growth Hormone Receptor (GHR) Box1 Sequence Demonstrates that the GHR Does Not Signal Exclusively through JAK2. **Molecular Endocrinology** (2010) 24: 204-217. IF 5, Cited 11 times.