Current Jones lab members

Sue Jones, PhD

Sue studied Pharmacology at King's College London then did her PhD in Professor David Brown's lab at UCL, on the modulation of the M-type potassium conductance. She then did postdoctoral research with Dr Jerry Yakel (NIH, USA), working on nicotinic ACh and $5HT_3$ ligand gated ion channel receptors, and with Dr Julie Kauer at Duke University Medical Centre/ Brown University, working on modulation of synaptic plasticity in dopamine neurons by drugs of abuse. She became a lecturer at the University of Cambridge in 2002. She spends as much time in the lab as possible.

Maggy Lau

Maggy has just started her research MPhil in the Jones lab and Galliano lab, working on dopamine neuron heterogeneity. Watch this space for Maggy's publications!

Former Jones lab Graduate Students

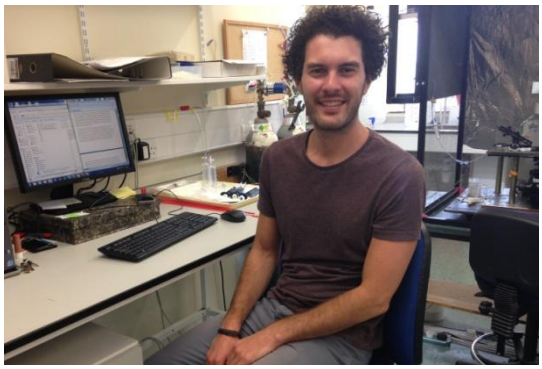
Jerry Zhao

Jerry worked in the Jones lab for his MPhil research degree at the University of Cambridge in 2016-2017. He explored the calcium-dependent mechanism of NMDAR rundown in SNc dopamine neurons, as first described by Angie Wild (Wild et al., 2014). In collaboration with Professor Michel Baudry, we identified a role for calpain. Jerry is currently an MB-PhD student at USC in the USA.

Publications:

J. Zhao, M. Baudry, S. Jones (2018). Calpain inhibition reduces NMDA receptor rundown in rat substantia nigra dopamine neurons, Neuropharmacology, 137:221-229

Paul Morris, PhD

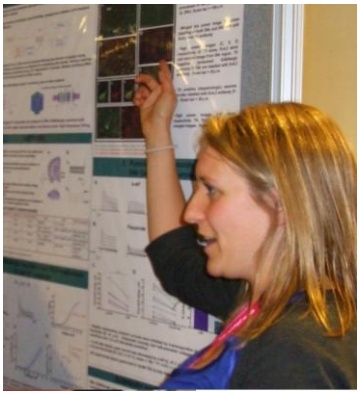


Paul was a PhD student in the Cambridge BBSRC-Doctoral Training Programme (2014-2017). He used electrophysiology to study the properties of NMDARs in SNc dopamine neurons from GluN2D null mice. He is currently a postdoc at the University of Bristol.

Publications:

P.G. Morris, M. Mishina, S. Jones (2018). Altered synaptic and extrasynaptic NMDA receptor properties in substantia nigra dopaminergic neurons from mice lacking the GluN2D subunit, Frontiers in Cellular Neuroscience, Vol 12: Article 354

A.R. Wild, M. Bollands, **P.G. Morris**, S. Jones, (2015). Mechanisms regulating spill-over of synaptic glutamate to extrasynaptic NMDA receptors in mouse substantia nigra dopaminergic neurons, European Journal of Neuroscience, 42:2633-2643



Jenny Brown, PhD

Jenny joined the HHMI-funded Cambridge-Janelia Graduate Scholars Programme in 2009 and spent the first year in the Jones lab, studying potassium conductances underlying spiking in SNr GABA neurons. She then moved to Janelia Research Campus USA to work in the lab of Dr Joshua Dudman for 3 years, completing her PhD in 2013. She is currently a postdoc at the University of California, Berkeley.

Publications:

Brown J, Pan WX, Dudman JT (2014). The inhibitory microcircuit of the substantia nigra provides feedback gain control of the basal ganglia output. Elife e02397.

Pan WX, **Brown J**, Dudman JT (2013). Neural signals of extinction in the inhibitory microcircuit of the ventral midbrain. Nat Neurosci. 16:71-8.

J. Brown. Functional organization of the midbrain substantia nigra. In: Dopamine-glutamate interactions in the basal ganglia. Ed: S Jones 2011. Frontiers in Neuroscience series, Taylor & Francis / CRC Press.

Angie Wild, PhD

Angie's PhD was funded by a Parkinson's UK award to Dr Sue Jones and Prof Alasdair Gibb (UCL). Angie spent 18 months in each lab as part of her PhD, studying NMDA receptor regulation in SNc dopamine neurons. She completed her PhD in 2012 and continued in the Jones lab in Cambridge as a postdoc, funded by the Wellcome Trust and the Isaac Newton Trust. She is currently a postdoc at the University of Colorado, Denver.

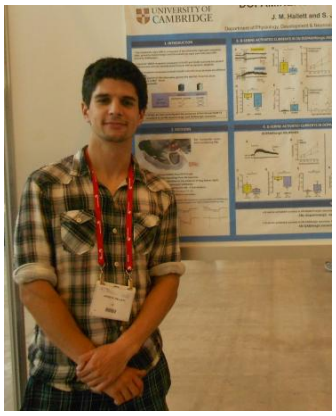
Publications:

A.R. Wild, S. Jones and A.J. Gibb (2014). Activity dependent regulation of NMDA receptors in substantia nigra dopaminergic neurones. J Physiology 592.4:653–668

A.R. Wild, E. Akyol, S.L.C. Brothwell, P. Kimkool, J.N. Skepper, A.J. Gibb and S. Jones (2013). Memantine block depends on agonist presentation at the NMDA receptor in substantia nigra pars compacta dopamine neurones. Neuropharmacology 73:138-146

A.R. Wild, M. Bollands, P.G. Morris, S. Jones, (2015). Mechanisms regulating spill-over of synaptic glutamate to extrasynaptic NMDA receptors in mouse substantia nigra dopaminergic neurons, European Journal of Neuroscience, 42:2633-2643

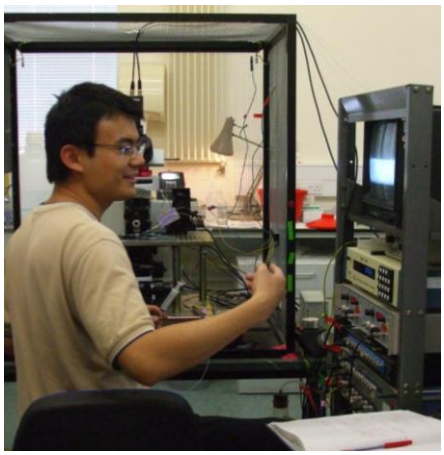
James Hallet, PhD



James was a BBSRC-funded PhD student in the Jones lab. His PhD focussed on identifying GluN3 subunits using immunohistochemistry (in collaboration with Dr Jeremy Skepper) and electrophysiology. The GluN3 subunit antibodies turned out to have poor selectivity, but he obtained heroic recordings of GluN1/GluN3 receptor responses and completed his PhD in 2012. James is now a teacher.

Publications:

S Jones, SLC Brothwell, I Huang-Doran and **J Hallett**. Ionotropic glutamate receptors in the basal ganglia. In: Dopamine-glutamate interactions in the basal ganglia. Ed: S Jones 2011. Frontiers in Neuroscience series, Taylor & Francis / CRC Press.



Wei Xu, MB PhD

Wei was a PhD student in the Edgley lab working on cerebellar timing mechanisms. He spent one year in the Jones lab, learning patch-clamping in brain slices and using this approach to explore mechanisms underlying spike timing patterns in pre-cerebellar LRN neurons. Wei completed his PhD in 2011 then finished his medical training. He is currently a researcher at Newcastle University.

Publications:

W. Xu, S. Jones and S.A. Edgley (2013). Event time representation in cerebellar mossy fibres arising from the lateral reticular nucleus. J Physiology 591:1045-1062

W. Xu and S.A. Edgley (2010). Cerebellar Golgi cells in the rat receive convergent peripheral inputs via a lateral reticular nucleus relay. Eur J Neurosci. 32:591-7

W. Xu and S.A. Edgley (2008). Climbing fibre-dependent changes in Golgi cell responses to peripheral stimulation. J Physiol. 586:4951-9.

Shona Brothwell, MB PhD

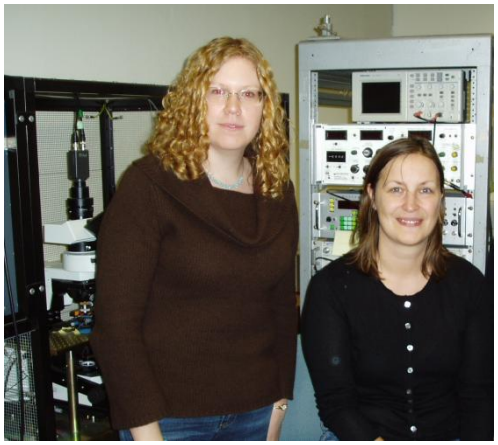
Shona completed a PhD in the Jones lab in 2008 and then spent an additional 6 months as a psotdoc in the lab, funded by Parkinson's UK and the Isaac Newton Trust. She then went to the University of Birmingham to study medicine, returning to Cambridge to take up an Academic Foundation place. Shona was the first person to characterize the pharmacology of NMDA receptor subtypes at excitatory synapses on SNc dopamine neurons, and she also developed an in vitro brain slice assay of dopamine neuron survival.

Publications:

A.R. Wild, E. Akyol, **S.L.C. Brothwell**, P. Kimkool, J.N. Skepper, A.J. Gibb and S. Jones (2013). Memantine block depends on agonist presentation at the NMDA receptor in substantia nigra pars compacta dopamine neurones. Neuropharmacology 73:138-146

SLC Brothwell, JL Barber, DT Monaghan, DE Jane, AJ Gibb & S Jones (2008). NR2B- and NR2D-containing synaptic NMDA receptors in developing rat substantia nigra *pars compacta* dopaminergic neurones. J. Physiology 586:739-750.

S Jones, **SLC Brothwell**, I Huang-Doran and J Hallett. Ionotropic glutamate receptors in the basal ganglia. In: Dopamine-glutamate interactions in the basal ganglia. Ed: S Jones 2011. Frontiers in Neuroscience series, Taylor & Francis / CRC Press.



Helen Gibson, PhD

Helen was a PhD student in Professor Jenny Morton's lab, and as part of a collaboration she carried out electrophysiology experiments in the Jones lab between 2002-2005 to explore deficits in synaptic plasticity in mouse models of Huntington's disease. Helen then went to do a postdoc at Brown University USA. She currently works for Galanea, USA.

Publications:

D. Glynn, **H.E. Gibson**, M.K. Harte, K. Reim, S. Jones, G.P. Reynolds and A.J. Morton (2010). Clorgyline-mediated reversal of neurological deficits in a Complexin 2 knockout mouse. Human Molecular Genetics 19:3402-3412.

Gibson, H.E., Reim, K., Brose N., Morton, A.J. and Jones, S (2005). A similar impairment in CA3 mossy fibre LTP in the R6/2 mouse model of Huntington's disease and in the complexin II knockout mouse. Eur. J. Neuroscience 22, 1701-1712.

HE Gibson and S Jones. Memory and long-term depression. In: Encyclopedia of Psychopharmacology Ed: I.P. Stolerman 2010, Springer.