Names (Presenter in bold font)	**Barbora Fulopova**[1,2], William Bennett[2], Kimberley Stuart[2], Aidan Bindoff[2], Anna King[2], James Vickers[2], Alison Canty
Affiliations	[1]Queensland Brain Institute, The University of Queensland, Australia [2]Wicking Dementia Research and Education Centre, University of Tasmania, Australia
Title	Cortical axonal synapses maintain density, but not turnover in the APP/PS1 amyloidosis mouse model.
Abstract (max 300w)	Synaptic dysfunction is one of the key mechanisms associated with cognitive deficits observed in Alzheimer's disease (AD), yet little is known about the presynaptic axonal boutons in AD. Focusing on cortical axonal synapses (axonal boutons) we performed a series of experiments using the APP/PS1 mice and their wild type (WT) counterparts crossed with fluorescent reporters linked to the Thy-1 promoter for synaptic imaging studies. We characterised plasticity of axonal boutons across the lifespan (3-22 months), following midlife environmental enrichment (EE) and in response to neuromodulation using rodent specific transcranial magnetic stimulation coil (TMS). We found that overall, axonal boutons showed a remarkable resilience in preserving overall number of synaptic outputs, as evidenced by maintained density across all experimental conditions. Using a *in vivo* cranial window imaging to monitor synaptic changes in real time, we found that despite maintaining stable synaptic density, the turnover (gains and losses) of axonal boutons was significantly reduced in APP/PS1 mice but could be modulated by TMS to reach the baseline dynamic observed in WT mice.

Abstract deadline: Jan 20 (Please send to cjcadradmin@qbi.uq.edu.au)