Publication List:

Duffy KR, Bear MF, Patel NB, Das VE, Tychsen L (2023) Human deprivation amblyopia: treatment insights from animal models. Frontiers in Neuroscience, 17:1249466.

Duffy KR, Crowder NA, Heynen AJ, Bear MF (2023) Comparative analysis of structural modifications induced by monocular retinal inactivation and monocular deprivation in the developing cat lateral geniculate nucleus. Journal of Comparative Neurology, 532, 1244-1260.

Hogan M, DiCostanzo NR, Crowder NA, Fong MF, Duffy KR (2023) Investigation of the efficacy and safety of retinal inactivation as a treatment for amblyopia in cats. Frontiers in Neuroscience17:1167007.

Henneberry JM, Elgallad J, Smith S, Duffy KR (2023) Early monocular deprivation reduces the capacity for neural plasticity in the cat visual system. Cerebral Cortex Communications

Fong M-F, Duffy KR, Leet MP, Candler CT, Bear MF (2021) Correction of amblyopia in cats and mice after the critical period. eLife. 10: e70023.

MacNeill K, Myatt A, Duffy KR, Mitchell DE (2021) Documentation of the development of various visuomotor responses in typically reared kittens and those reared with early selected visual exposure by use of a new procedure. Frontiers in Neuroscience 10:15.

Fong MF, Duffy KR, Leet MP, Candler CT, Bear MF (2021) Correction of amblyopia in cats and mice after the critical period. Elife 31:10.

Aronitz EM, Kamermans BA, Duffy KR (2021) Development of parvalbumin neurons and perineuronal nets in the visual cortex of normal and dark-exposed cats. Journal of Comparative Neurology 529: 2827-2841.

DiCostanzo NR, Crowder NA, Kamermans BA, Duffy KR (2020) Retinal and optic nerve integrity following monocular inactivation for the treatment of amblyopia. Frontiers in Systems Neuroscience 14:32.

Lingley AJ, Mitchell DE, Crowder NA, Duffy KR (2019) Modification of peak plasticity induced by brief dark exposure. Neural Plasticity 2019:3198285.

Mitchell DE, Crowder NA, Duffy KR (2019) The critical period for darkness-induced recovery of the vision of the amblyopic eye following early monocular deprivation. Journal of Vision 19: 1-13.

Mitchell DE, Aronitz E, Bobbie-Ansah P, Crowder NA, Duffy KR (2019) Fast recovery of the amblyopic eye acuity of kittens following brief exposure to total darkness depends on the fellow eye. Neural Plasticity doi: 10.1155/2019/7624837

Lingley AJ, Bowdridge JC, Farivar R, Duffy KR (2018) Mapping of neuron soma size as an effective approach to delineate differences between neural populations. Journal of Neuroscience Methods 304, 126-135.

Holman KD, *Duffy KR*, Mitchell DE (2018) Short periods of darkness fail to restore visual or neural plasticity in adult cats. Visual Neuroscience 35, 1-9.

Duffy KR, Fong, MF, Mitchell DE, Bear MF (2018) Recovery from the anatomical effects of long-term monocular deprivation in cat lateral geniculate nucleus. Journal of Comparative Neurology 526, 310-323.

Fong MF, Mitchell DE, *Duffy KR*, Bear MF (*2016*) Retinal inactivation promotes recovery from amblyopia. Proceedings of the National Academy of Sciences 213, 14139-14144.

Crocker-Buque A, Currie SP, Luz LL, Grant SG, *Duffy KR*, Kind PC, Daw MI (2016) Altered. Human Molecular Genetics pii: ddw244. [Epub ahead of print].

Duffy KR, Lingley AJ, Holman KD, Mitchell DE (2016) Susceptibility to monocular deprivation following immersion in darkness either late into or beyond the critical period. Journal of Comparative Neurology, 524, 2643-2653.

Mitchell DE, MacNeil K, Crowder NA, Holman K & *Duffy KR* (2015) Recovery of visual functions in amblyopic animals following brief exposure to total darkness. Journal of Physiology 594, 149-167.

Song S, Mitchell DE, Crowder NA & *Duffy KR* (2015) Postnatal accumulation of intermediate filaments in the cat and human primary visual cortex. Journal of Comparative Neurology 523, 2111-2126.

Mitchell DE, Crowder NA, Holman K, Smithen M & *Duffy KR* (2015) Ten days of darkness causes temporary blindness during an early critical period in felines. Proceeding of the Royal Society 282 (1803).

Duffy KR, Bukhamseen DH, Smithen MJ & Mitchell DE (2015) Binocular eyelid closure promotes anatomical but not behavioural recovery from monocular deprivation. Vision Research 114, 151-160.

Mitchell DE & *Duffy KR* (2014) The case from animal studies for balanced binocular treatment strategies for human amblyopia. Ophthalmic Physiology 34, 129-145.

Duffy KR, Holman K & Mitchell DE (2014) Shrinkage of X cells in the lateral geniculate nucleus after monocular deprivation revealed by FoxP2 labeling. Visual Neuroscience 31, 253-261.

Duffy KR & Mitchell DE (2013) Darkness alters maturation of visual cortex and promotes fast recovery from monocular deprivation. Current Biology, 23:382-386.

O'Leary TP, Kutcher MR, Mitchell DE & *Duffy KR* (2012) Recovery of neurofilament following early monocular deprivation. Frontiers in Systems Neuroscience 6:22.

Duffy KR, Crowder NA & LeDue EE (2012) Investigation of cytoskeleton proteins in neurons of the cat lateral geniculate nucleus. Journal of Comparative Neurology 520: 186-199.

Duffy KR & Duffy MS (2011) An in situ method for the examination of calcium-dependent proteolysis. Journal of Neuroscience Methods 201: 333-339.

Mitchell DE, Kennie J & *Duffy KR* (2011) Preference for binocular concordant visual input in early postnatal development remains despite prior monocular deprivation. Vision Research 51: 1351-1359.

Duffy KR & Slusar JE (2009) Monocular deprivation provokes alteration of the neuronal cytoskeleton in developing cat lateral geniculate nucleus. Visual Neuroscience 11:1-10.

Kutcher MR & *Duffy KR* (2007) Cytoskeleton alteration correlates with gross structural plasticity in the cat lateral geniculate nucleus. Visual Neuroscience 24:775-785.

Duffy KR & Hubel DH (2007) Receptive field properties of neurons in the primary visual cortex under photopic and scotopic lighting conditions. Vision Research 47:2569-2574.

Duffy KR, Murphy KM, Frosch MP & Livingstone MS (2007) Cytochrome oxidase and neurofilament reactivity in monocularly deprived human primary visual cortex. Cerebral Cortex, 17, 1283-1291.

Duffy KR & Livingstone MS (2005) Loss of neurofilament labeling in the primary visual cortex of monocularly deprived monkeys. Cerebral Cortex, 15, 1146-1154.

Murphy KM, *Duffy KR* & Jones DG (2004) Experience-dependent changes in NMDAR1 expression in the visual cortex of an animal model for amblyopia. Visual Neuroscience, 21, 653-670.

Duffy KR & Livingstone MS (2003) Distribution of non-phosphorylated neurofilament in squirrel monkey V1 is complementary to the pattern of cytochrome-oxidase blobs. Cerebral Cortex, 13(7), 722-727.

Pack CC, Livingstone MS, *Duffy KR*, Born RT (2003) End-stopping and the aperture problem: two-dimensional motion signals in macaque V1. Neuron, 39, 671-680.

Murphy KM, *Duffy KR*, Jones DG & Mitchell DE (2001) Development of CO blobs in

the visual cortex of normal and visually deprived cats. Cerebral Cortex, 11, 122-135.

Fava MA, *Duffy KR*, Murphy KM (1999) Experience-dependent development of NMDAR1 Subunit expression in the lateral geniculate nucleus. Visual Neuroscience, 16(4), 781-789.

Duffy KR, Murphy KM & Jones DG (1998) Analysis of postnatal growth of visual cortex. Visual Neuroscience, 15(5), 831-839.

Trepel C, *Duffy KR*, Pegado VD & Murphy KM (1998) Patchy distribution of NMDAR1 subunit immunoreactivity in developing visual cortex. The Journal of Neuroscience, 18(9), 3404-3415. *[C.T. and K.R.D. contributed equally to this work]*