

Full Time MSc Neuroscience Programme 2009 – 2010

Titles for Essay A1

Submission Deadline 18:00 on 13th November 2009

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| 1 | Describe how antibodies are useful for studying pathological changes in the brain. | Jon Cooper |
| 2 | Describe the mechanisms by which astrocytes control the neuronal environment and, using appropriate examples, discuss their importance for neuronal function in health and disease. | Arthur Butt |
| 3 | What if any is the role of neuronal activity in forming and pruning synapses? | Juan Burrone |
| 4 | Discuss how cloning and sequencing of receptor genes has contributed to our understanding of their function. | Andrew Makoff |
| 5 | How can carbon fibre electrodes be used to measure dopamine release? Explain the contribution of carbon fibre electrodes to: (a) the study of exocytosis and (b) dopamine release in response to animal behaviour. | Martyn Boutelle |
| 6 | Describe using illustrations, the role of inositol phospholipids in receptor mediated signal transduction. How is the process altered by lithium? | Iain Campbell |
| 7 | How might silencing RNA be used therapeutically in the future for neurodegenerative disease? What difficulties need to be overcome? | Angela Hodges |
| 8 | Describe the biological functions of the neurotrophin family (including NGF) and their receptors. Which experiments enable the elucidation of these functions? | Sarah Guthrie |
| 9 | Describe the mechanisms through which caspases are activated. What evidence is there that apoptosis occurs in neurodegenerative diseases? | Claudie Hooper |
| 10 | What properties are shared between the different protein aggregates found in many neurodegenerative diseases? | Angela Hodges |