

Full Time MSc Neuroscience Programme 2010 – 2011

Titles for Essay A2

Submission Deadline Midday on 25th November 2010

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| 1 | Describe the genetic architecture of complex diseases, such as schizophrenia, focusing on both common and rare genetic susceptibility variants. How might genetic architecture differ between disorders? | David Collier |
| 2 | Discuss the experimental evidence for an underlying segmentation of the developing CNS. | Clemens Kiecker |
| 3 | Discuss what is known about the role that Reelin plays in the development of the cerebral cortex. | Brenda Williams |
| 4 | Is there evidence that neurodegenerative disorder(s) can have neurodevelopmental origin(s)? | Sandrine Thuret |
| 5 | What type of synaptic plasticity is believed to be important for memory formation? Why is that form of plasticity considered important? Is it also important for memory storage? | Peter Giese |
| 6 | Discuss biological plausibility in artificial neural networks using Hebbian and Backpropagation networks as examples. | Mike Coleman |
| 7 | Outline the potential problems in delivering therapeutic drugs and biological macromolecules into the CNS, and discuss ways in which these problems can be overcome. | David Male |
| 8 | Outline the immune reactions occurring within the CNS in multiple sclerosis and discuss the evidence for the proposal that multiple sclerosis is an autoimmune disease. | David Male |
| 9 | What roles do microglia play in development and repair of the nervous system? | Payam Rezaie |
| 10 | Critically review the evidence for a relationship between cytokines and mood disorder/depression. | Payam Rezaie |