

## **Full Time MSc Neuroscience Programme 2011 – 2012**

### **Titles for Essay A3**

#### **Submission Deadline midday on 5<sup>th</sup> January 2012**

1. How does retinal processing accommodate the enormous range of light levels to which the eye can be exposed? - Ian Thompson
2. "The IASP (International Association for the Study of Pain) define pain as: "An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage". Discuss this definition in the light of recent pain research. - Anna Battaglia
3. What is the biological basis of the endogenous "clock" in the suprachiasmatic nucleus of the hypothalamus? What are the main scientific developments that have led to our understanding of the system? – Iain Campbell
4. Compare and contrast the neural control at different levels of the motor system. - Marinela Vavla
5. Neuroadaptations develop in response to chronic drug exposure. Taking opioids as example, explain the main molecular and cellular mechanisms underlying these processes and how they may contribute to expression of important features of addiction - Sylvane Desrivieres
6. Discuss animal models of drug addiction and their utility for assessing abuse liability. - Mohammed Shoaib
7. How has neuroimaging helped our understanding of the neurobiology of ADHD? - Katya Rubia
8. Outline the main structures implicated in long-term memory function in humans. How may these be affected by different causes of pure amnesia - Robin Morris
9. Are Schizophrenia and Bipolar Affective Disorder really one and the same? Use both clinical and research findings to illustrate your case. - Toby Winton-Brown
10. Is fMRI able to provide any useful clinical insights in psychiatry that are not available by other means? - Mick Brammer
11. Describe the pathology of prion diseases and discuss how both incidence and transmission are controlled by the Prion protein gene (PRNP). - Katie Lunnon
12. What evidence points to the polyglutamine diseases being "gain of function" diseases? - Angela Hodges