

## **Full Time MSc Neuroscience Programme 2009 – 2010**

### **Titles for Essay A3**

**Submission Deadline 29<sup>th</sup> January 2010**

- 1 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
- 2 Why is knowledge of the functional segregation of corticostriatal circuits important to understanding the mechanisms of action of current treatments for neuropsychiatric disorders and to the development of new treatments. Anastasia Christakou
- 3 Describe the various contributions of the photoreceptors to visual processing. Ian Thompson
- 4 Explain the role of the PKA/cAMP signalling pathway in various phenotypes of opiate addictions. Sylvane Desrivieres
- 5 Describe the structure and function of the reward circuitry of the brain and how at least three different classes of drugs of addiction interact with it. Christian Muller
- 6 Describe (i) the main clinical features of schizophrenia and (ii) how historical and current conceptions of the illness have influenced research into pathophysiology as well as the development of new treatments. Toby Winton-Brown
- 7 Discuss evidence that schizophrenia is a neurodevelopmental disorder. What neurobiological processes might be involved? Nick Bray
- 8 Describe the major pathophysiological models of depression. Which do you think is the best model and why? Paul Morrison
- 9 How might PET (positron emission tomography) and fMRI be used together in the development of potential new drugs? Mick Brammer
- 10 How can molecular imaging help us understand neurodegenerative diseases? Mike Modo