We arrived at the Biomedical Sciences building at NUIG to be greeted by Sarah and Claire and tea, coffee and refreshments were available. Sarah introduced the session and outlined the agenda for the evening. She introduced the first speaker, Silvia Cabre Gimenez, a first year PhD student in the Pharmacology Dept at NUIG.

Silvia’s talk was on Parkinson’s disease. She told us about the very tiny part of the brain affected by the disease, which is a result of death of dopamine-producing neurons. Typically approximately 60-80% of neurons in the Substantia nigra are dead when the disease is diagnosed. Her research is on cell replacement therapy, that involves introduction of healthy stem cells which will replace the dead neurons and hopefully produce dopamine. However, there is a high rate of cell death in these transplanted cells and there are ethical issues to overcome due to the requirement for embryonic stem cells. Silvia’s slides were excellent and she explained the aim of her research very well. She also introduced the BrainMaTrain project which involves four Universities, two hospitals and two Biomedical companies across Europe. We were provided with a link to a short video introducing people who are living with this debilitating disease. I am looking forward to showing this video to my fifth year Biology students and to introducing them to the possibilities of actually curing this disease rather than treating the symptoms and attempting to delay progress of the disease.

The second speaker was James Britton. James is a PhD student and works with Curam. James began by introducing the nervous system and how a nerve impulse works. He explained the function of decellularised “scaffolds” within the human body and his research attempts to mimic these scaffolds. He then spoke about spinal cord injury and the use of biomedical scaffolds made using biocompatible materials and 3D printing techniques. It is hoped that the scaffolds can be used
as a bridge to channel repair of damaged axons and thereby repair spinal cord injury. Think of the bright future for people with spinal injuries when this type of repair becomes possible.

The third speaker was Dr. Jill McMahon who has spent many years in research and has a particular interest in Multiple Sclerosis. Jill gave us many interesting facts about MS including the usual incidence rate of 1 per 1000 people in Europe and North America. However the incidence is as high as 1 per 400 in Jill’s home county of Donegal. Jill also told us about possible contributory factors to onset of the disease such as a genetic predisposition and environmental factors including distance from the Equator, lack of vitamin D, exposure to EBV and excess iron. She introduced us to research techniques using brain slice cultures and the use of these cultures in studying the effects of iron, anti-inflammatory drugs and other substances.

All of the speakers were excellent. They explained their research clearly and made it available to non-researchers in a very accessible and informative way. All talks generated many questions and a lot of discussion and it was evident that the audience was interested and attentive. I wish Silvia, James and Jill the very best of luck with their extremely worthwhile research.

In addition to the presentations, we were provided with links to useful neuroscience websites and many excellent handouts targeted at both primary and secondary school students. Thank you to both Sarah and Claire for organizing everything and to the researchers for taking the time to teach us.

Ann McGreevy.