"Gut Instincts: The Link Between Diet, the Gut Microbiota and the Brain"

From 12th-14th October we hosted the third postgraduate symposium between students from the StratiGrad programme in the Division of Computational and Systems Medicine (Imperial College London) and the Alimentary Pharmabiotic Centre (University College Cork). Both centres address how lifestyle factors and the gut microbiome interact in health and disease, but with complementary foci: metabonomics and systems medicine in ICL, and microbiology in UCC. This symposium is an opportunity to build collaborative links in this field, especially with those who have different areas of expertise. In total, over 35 students were in attendance during the symposium.

The event included four keynote speakers from ICL (Dr Jon Swann, Prof Gary Frost), UCC (Dr. Paul Cotter) and a guest speaker from the University of Reading (Dr Danny Commane). Each speaker brought a unique perspective on the theme ranging from the effects of undernutrition on the diet-gut-brain axis, diet and microbiota-related biomarkers of colorectal cancer risk, insights into food and gut microbial populations, and differential effects of short chain fatty acids.

Eight students from both institutions whose research specifically addressed the theme were invited to present their research. This displayed the breadth and depth of research undertaken by postgraduate students. Topics broadly included the interplay of diet, exercise, travel and the gut microbiome; specific genetic and metabolic characteristics of gut microbiota; uterine environment, early life and breast feeding effects on microbiota and metabolism.

The remaining 27 students were given the opportunity to showcase their work in a poster presentation session on the final morning of the symposium. This session enabled students to connect with others and to exchange ideas, and further highlighted the range of complementary experience in both research groups.

To showcase the cutting edge research taking place in Imperial College, both within and outside our department, we arranged tours and demonstrations in St Mary’s Hospital campus. The innovative diathermic iKnife, which enables real-time mass-spectrometry in surgery settings, was demonstrated by Prof Takats team. Students had the opportunity to try out the instrument for themselves by testing different animal tissues and observing the mass spectra. Next we were shown various advanced robotic surgery equipment (DaVinci robot), surgical training robots and the iDome data visualisation device in the Hamlyn Robotics Centre by Mr James Dilley.

We held two social events including an evening reception here at college, and a meal in Soho to show our visiting students the highlights of London. Our last event was to ask attendees to vote on their favourite student presentation and poster, and prizes were awarded to the winning students.

Feedback from the symposium has been very positive and plans are in place for the next event to take place in UCC in 2017.