



Welcome to the latest edition of the information sharing newsletter from the Maynooth University Commercialisation Office. Our goal is to share relevant market news and activities on the commercialisation of Maynooth University research. We hope you enjoy this newsletter.

Photo courtesy
of Maura Boyle.

For more information visit:

www.maynoothuniversity.ie/commercialisation



**DR.
JENNIFER
McMANUS**

Dr. Jennifer McManus (BSc and PhD, University College Dublin), is the Head of the Department of Chemistry at Maynooth University. She joined the university in 2008 as a Science Foundation Ireland Stokes Lecturer and established the Soft Matter and Biophysical Chemistry Laboratory, following postdoctoral research positions at the University of Fribourg in Switzerland and at the Massachusetts Institute of Technology.

Research in the Soft Matter and Biophysical Chemistry laboratory centres on *Protein Self-Assembly*. Using a multi-disciplinary approach, the group try to understand how and why proteins form crystals, aggregates and gels and in doing so, learn how to control those assembly processes. Knowledge about very fundamental aspects of protein self-assembly are then applied to a range of industrial applications. Recently, working with groups from TCD, UCC, UL, SSPC and six major pharmaceutical companies the group developed advanced methods for characterising biopharmaceutical formulations through an Enterprise Ireland Innovation Partnership – better formulations increase product shelf life and limit the potential for immunogenicity in patients treated with protein-based drugs.

The group also work with Medimmune in Cambridge, UK on the self-assembly of peptides. With colleagues in Teagasc, they have worked on protein-mineral interactions to improve infant-milk formula production, one of the major dairy exports from Ireland. The more fundamental research the group does aims to understand and harness the “patchy” interactions between proteins to improve the success of protein crystallization. They are currently part of the RAMP (Rationalising Membrane Protein Crystallization) Innovative Training Network (ITN) funded by the EU under a Marie Skłodowska Curie Action (MSCA) and have recently hosted researchers within the network from the University of Grenoble and the University of Surrey. The research conducted by the PI and her group has been enriched by many productive collaborations with researchers in TCD, Teagasc, LMU Munich, La Sapienza, Rome, the University of Paris-Sud, the University of Massachusetts Amherst, Harvard University and Duke University. The lab has been funded by grants from Science Foundation Ireland, the Irish Research Council, the Department of Agriculture, Food and Marine, Enterprise Ireland, H2020, Teagasc, Maynooth University and a number of companies.

APÉRO UNIVERSITAIRE

In collaboration with France Alumni and the French Embassy, the MU commercialisation office hosted an “Apéro universitaire” on the evening of December 11th. The evening was opened by MU president Professor Phillip Nolan and His Excellency the French Ambassador Mr. Stéphane Crouzat. Speaking in French, Professor Nolan emphasised the importance of international collaboration for MU and how the University has always enjoyed close scholarly links with France. The Ambassador reinforced this closeness, mentioning that MU was the first Irish university he visited upon his arrival in Ireland. He later commented that he was impressed by the attendance and the very broad collaborations across several disciplines that exist between MU and French universities.

Seven researchers from MU presented five-minute vignettes of their research and links with France. Prof. John Ringwood spoke about his research in ocean energy and his close ties with French universities and how French collaborators have been instrumental in the development of his group. Dr. Emmanuelle Graciet, originally from Paris, spoke about her work on plant biology and mechanisms and models for understanding crop resilience to climate change. Dr. Patrick Rigot-Muller spoke about his work on the modelling and optimisation of global shipping routes. Dr. Kathleen Shields entertained the audience in her presentation about language translation, and how English words used in every day French have changed meaning. Dr. Fabrice Rousseau, who collaborates with University of Toulouse, spoke about high speed

trading on international markets. Prof. Thomas O'Connor spoke about his personal experiences in Paris Sorbonne and his work on the history of migration between Ireland and France. And finally Prof. Damien introduced us to his work on molecular computing and his team which comprises almost entirely of French postdocs and postgrads.

Two French and two Irish students then spoke, in English and in French respectively, about their Erasmus experiences. They were particularly impressive in how they represented the value and importance of cultural and language links between Ireland and France, facilitated by the Erasmus programme and the network it develops. Philippine Henry, representing France Alumni, and who helped organise the event, was on hand to help promote and develop these links. Dr. Marc Daumas, the attaché scientifique from the French Embassy spoke about how the possibilities of developing broader and deeper research links. Knowledge transfer links that MU has with French universities were discussed and in particular, how the Irish system is similar to the French system of consortia managed knowledge transfer.

One of the features of the evening was the fact that several of the Irish speakers presented in French and the French speakers presented in English. In the ensuing networking, aided by some very fine French wine, the level of bilingualism among the 70 attendees was impressive.

Apéro universitaire speakers below



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