CLOSTNET Bacterial Secretion Workshop, Centre National de la Recherche Scientifique (CNRS), Marseille, France

Niall Bollard, University of Nottingham, 16th-19th September 2012

The workshop was a mixture of laboratory work and lectures regarding protein secretion systems in bacteria.

The laboratory element of the workshop (days 2-4), overseen by 4 senior researchers and one PhD fellow from Professor C. Tardif's research group at CNRS, involved the extraction of cellular cytoplasmic fractions & envelopes from wild type and mutant (without the signalling system required for the secretion of the protein of interest, Cel48F) strains of *Clostridium cellulolyticum*.

Studies focussed on the secretion of the cellulosome, Cel48F, which is necessary for the efficient growth of the organism on crystalline cellulose. Cel48F is inefficiently secreted into the bacterial supernatant by the organism, and so, the bacteria contained strep-tag II, a recombinant vector, which induced protein secretion into the supernatant. A pull-down assay, involving protein fusion, was used to elute the protein of interest. Western blotting was then performed to determine the expression level of Cel48F in each sample (wild type and mutants). After three days of experiments, the results were visualised using the latest techniques (ImageQuant software) for protein band visualisation & analysis.

The lectures (days 1 & 2) consisted of detailed presentations by Dr. S. Bleves and Dr. B. Douzi, divided into one hour segments, describing the structures & functions of secretion systems in bacteria, and the role that these systems play in virulence & pathogenesis, specifically, the type II system in *Pseudomonas aeruginosa*.

Fellows were accomodated at the Ibis Hotel and the Seven Urban Suites Hotel, which had buffet breakfast and free wireless internet available, as well as helpful staff.