Metal Circuits, Synthetic Biology and C1 gases

Thursday 12th to Friday 13th November 2015
Canterbury Cathedral, Kent

A scoping workshop jointly organised by the Metals in Biology and C1Net BBSRC Networks in Industrial Biotechnology and Bioenergy designed to build collaborations between industry and academia and explore ideas for synergy and joint research.

SUMMARY

The cellular 'circuitry' that supplies metals to enzymes is a target for synthetic biology. Nearly a half of the enzymes in the protein databank contain metals at their active sites. Most of these enzymes will bind wrong metals more tightly than the ones needed for activity. Cell have 'circuits' — metallochaperones, metal-importers, -exporters, -sensors, storage proteins and cofactor-assembly pathways — to assist enzyme metalation. There is opportunity to manipulate these circuits to optimise the activities of enzymes in industrial biotechnology and to design novel bio-metallic cofactors. Key enzymes required for the utilisation of C1-gases have especially diverse (exotic) metal demands: The Ni-containing tetrapyrrole F430 in methyl CoM reductase, Cu or Fe in different methane monoxygenases, Co in vitamin B12 associated with various methyl donors enzymes, Fe and Ni hydrogenases, as just a few exemplars.

SCHEDULE

Day 1: 1pm; arrival, individual presentations and networking, dinner and overnight accommodation
Day 2: Round table discussions and collaboration building, finishing with lunch at 1pm

REGISTRATION

If you would like to attend this **free** event please get in touch (email below) ASAP as there are a limited number of places available which include overnight accommodation:
c.harrison@kent.ac.uk