



DEPARTMENT OF CHEMISTRY SEMINAR SERIES

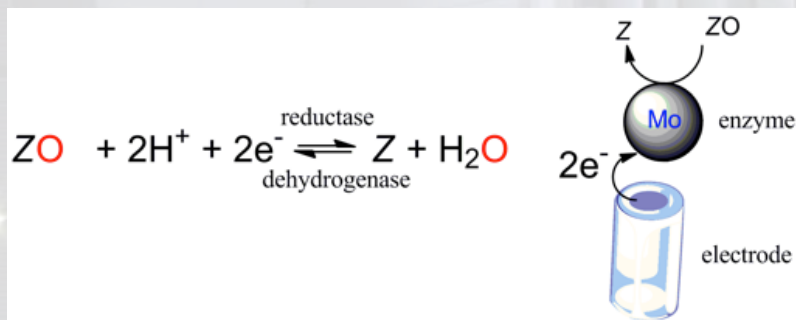
Electrochemical Communication with Molybdoenzymes

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All redox active enzymes require an external electron donor or acceptor to sustain their reactivity. Integration of the enzyme with an electrical circuit as a substitute for the natural electron transfer partner is central to the transition from native function to an artificial bioelectronic device.

We have focused our efforts on the mononuclear molybdenum enzymes [1-3] where the scheme shows the generic substrate redox reactions (typically O-atom transfer) carried out by these enzymes. Both the reductases and oxidases/dehydrogenases are included in the scheme.

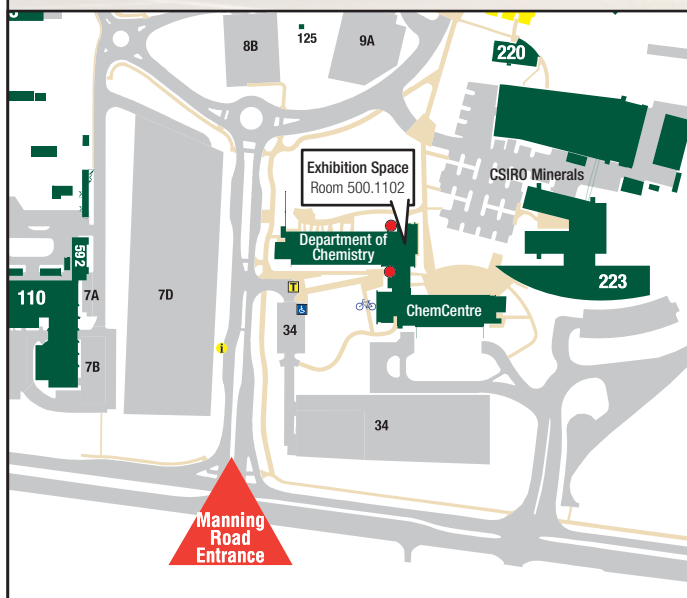


Some recent results from our lab will be presented where we apply different electrochemical approaches to these interesting enzymes in an effort to exploit the high selectivity and reactivity.

[1] Bernhardt, P.V. Chem. Commun., 2011, 47, 1663-1673 (review).

[2] Kalimuthu, P.; Tkac, J.; Kappler, U.; Davis, J.J.; Bernhardt, P.V. Anal. Chem. 2010, 82, 7374-7379.

[3] Kalimuthu, P.; Leimkühler, S.; Bernhardt, P. V. Anal. Chem. 2012, 84, 10359-10365



Thursday, 1st August 2013 at 4:00 PM
Exhibition Space, Building 500, Room 1102

For more details about the
Chemistry Seminar Series, please contact:

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