

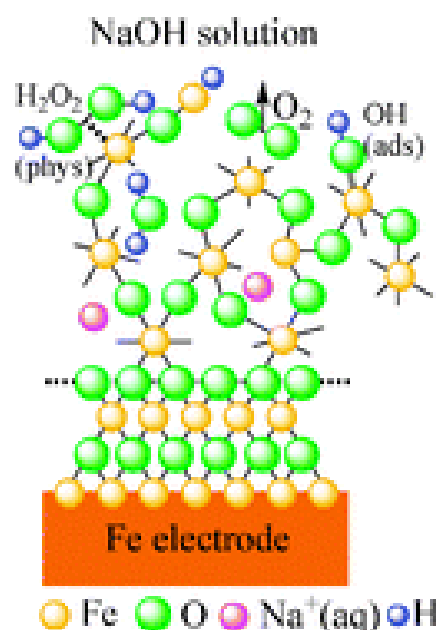
A tale of two PhD's: oxide mediated water splitting revisited.

Redox switching and oxygen evolution electrocatalysis in polymeric iron oxyhydroxide films.

Article citation: Michael E. G. Lyons, Michael P. Brandon, *Phys. Chem. Chem. Phys.*, 2009, DOI: 10.1039/b815338h

PCCP

In recent work Dr Mike Lyons and Dr Mike Brandon of the Physical and Materials Electrochemistry Research Group have re-examined the kinetics and mechanism of anodic oxygen evolution at oxide coated iron electrodes and proposed a new peroxide based mechanism of considerable generality. It is proposed that the iron oxide layer plays a dominant role in the mechanism of anodic water splitting. The electrolytic generation of oxygen from water has been studied for a very long time, and yet is of considerable current interest from the viewpoint of energy conversion.



The joint work has recently been published in the RSC journal, *Physical Chemistry Chemical Physics*, and has been cited as 'a landmark paper' during peer review, and consequently has been conferred with 'hot paper' status. The paper may be read online at:

<http://www.rsc.org/publishing/journals/CP/article.asp?doi=B815338H>

It is of interest to note that the paper spans some 26 years of research since it contains experimental results and theoretical models derived from the original Ph.D studies of Mike Lyons in 1982, allied with the recent experimental work reported by Mike Brandon in his Ph.D Thesis of 2008. Needless to say both sets of experiments were mutually supportive, even though the technology and capability of electrochemical measurement has improved significantly over the intervening period!