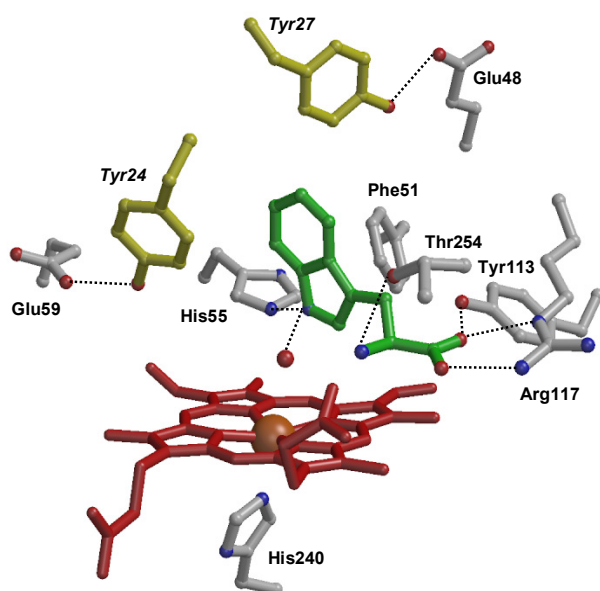




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Research Interests: electron transfer; metalloproteins; biocatalysis; protein engineering; enzymology; oxygen activation; cytochromes; flavoproteins.

Our current research projects are centered on determining the molecular mechanisms involved in electron transfer in flavin and metal-containing enzymes. This involves an interdisciplinary research team investigating the physicochemical properties of heme proteins. The group has a number of enzymes cloned and expressed and is successfully analysing their molecular properties using a combination of protein engineering with kinetic and spectroscopic techniques.



We have recently determined the high-resolution X-ray structure of Tryptophan Dioxygenase. This figure shows the active site of the enzyme with the heme group in red and the bound tryptophan in green.

Systems currently being analysed using a combination of protein engineering with kinetic and spectroscopic, electrochemical and structural techniques are described in detail at the following web site: <http://www.chem.ed.ac.uk/chapman/>

### SELECTED RECENT PUBLICATIONS

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2. "An octaheme c-type cytochrome from *Shewanella oneidensis* can reduce nitrite and hydroxylamine" S.J. Atkinson, C.G. Mowat, G.A. Reid, and S.K. Chapman, *FEBS.Letts.* 2007, **581**, 3805-3808.
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