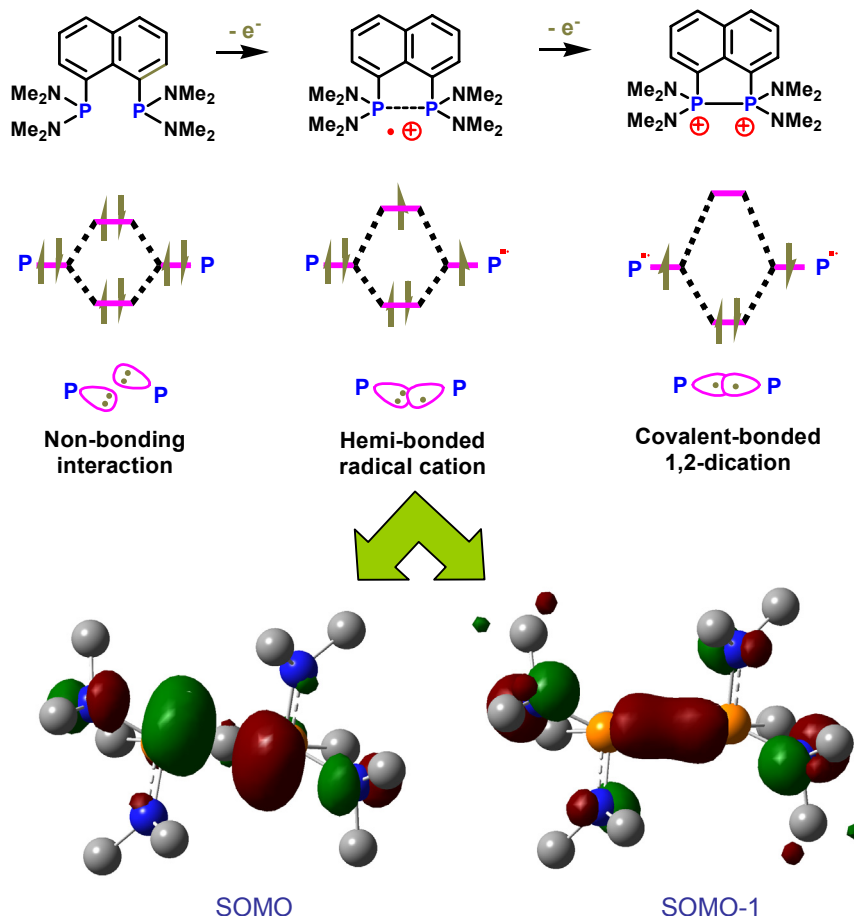


Research Interests: synthesis, organo-phosphorus and organo-pnictide chemistry, sterically hindered molecules, heteroatom centred radicals and biradicaloids



Research in our newly established group is dedicated to various aspects of organo-element chemistry, particularly molecular chemistry of phosphorus and pnictide elements in their extreme coordination environments (low and high). We synthesize novel species with unusual bonding and structure and investigate their properties which may be useful in material science. We are pioneering the use of clamping frameworks for the stabilization of fleeting species such as radicals and carbenes, species with a wide range of uses ranging from organic and polymer synthesis, biological and medicinal applications to materials science. Electronic and steric stabilization of odd electron phosphorus-phosphorus bonds (2c1e, 2c3e) is another subject of interest. Novel synthetic strategies are developed for syntheses of sterically crowded species.



### SELECTED RECENT PUBLICATIONS

1. Preparation and structures of 1,2-dihydro-1,2-diphosphaacenaphthenes and rigid backbone stabilised triphosphenium cation. P. Kilian, A. M. Z. Slawin and J. D. Woollins *Dalton Trans.* 2006, 2175-2183.
2. Chlorides, oxochlorides and oxoacids of 1,8-diphospha naphthalene - A system with enforced close P...P interaction. P. Kilian, A. M. Z. Slawin, J. D. Woollins *Inorg. Chem.* 2004, **43**, 2252-2260.
3. New mode of sterically imposed phosphorus hypercoordination P. Kilian, A. M. Z. Slawin, J. D. Woollins *Chem. Comm.* 2003, 1174-1175.