



THE SYNTHESIS OF CONDUCTING POLYMERS IN IONIC LIQUIDS

Dr. Jenny Pringle

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Tuesday 25th November 2008

4:00 p.m. – 5:00 p.m.

Science Lecture Theatre S10

Ionic liquids are a relatively new class of solvent, composed entirely of ions, which have a number of advantages over conventional solvents such as negligible vapour pressure and non-flammability. Ionic liquids are ideal media for the synthesis and use of conducting polymers as they can exhibit excellent electrochemical stability, which allows access to potentials previously prohibited by the smaller electrochemical window of conventional molecular solvent/electrolyte systems. They can also dissolve a wide range of monomers and chemical oxidants. We have investigated the use of ionic liquids for both the electrochemical synthesis of conducting polymer films and the chemical synthesis of conducting polymer nanoparticles. This seminar will review our progress in these areas, including recent work on the synthesis of conducting polymer-noble metal nanocomposites and the use of one of these materials in dye-sensitised solar cells.

Dr. Jenny Pringle studied Chemistry at The University of Edinburgh in Scotland, where she received a BSc (Hons) in Chemistry with Industrial Experience, and a PhD investigating the synthesis and use of ionic liquids. She moved to the School of Chemistry at Monash University in 2002, into the research groups of Prof Doug MacFarlane and Prof Maria Forsyth. In 2004 she moved to the Department of Materials Engineering, funded by a Discovery grant from the ARC that focused on the synthesis of conducting polymers in ionic liquids. In 2008 she started a QEII fellowship, in association with the ARC Centre of Excellence for Electromaterials Science, which focuses her research on ionic liquids and conducting polymers into the area of dye-sensitised solar cells.

Visitors are most welcome: Please note the parking arrangements. There is a designated Visitors Car Park (N1) clearly ground-marked by white paint and tickets, at a cost of \$3/day, are available from a dispensing machine. ('Blue' permit designated areas are for Monash members only.). It is also possible to park at other designated Visitors Car Parks (E1, S1 and S2) on the Clayton Campus, but tickets are \$1.4/hour.

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