SUMMARY OF MY RELEVANT RESEARCH AREAS:

Synthetic and medicinal chemistry, Molecular modelling, Drug discovery, Novel polymer synthesis, and Design and synthesis of peptidomimetic foldamers.

Primary Research interests:

Synthetic and medicinal chemistry: My group has widely published on the use of pyran-2-ones, pyridones and 1,4-oxazinones as dienes in Diels-Alder reactions and the application of the methodology for the synthesis of natural products and medicinally important targets. We are also active in the use of chiral organophosphorus reagents in synthesis as well as synthesis of a number of natural products.

Molecular modeling: We have extensive expertise in homology modeling of GPCR receptors, virtual high-throughput screening and identification of molecular probes that interact with these receptors.

Drug discovery: Using our dual expertise in medicinal chemistry and molecular modeling, we have discovered a number of small molecule antagonists of chemotactic receptors, including CXCR4 antagonist ICT5040, CCR7 antagonist ICT5888 and FPR-1 antagonist ICT5100, that are being developed at ICT as new anti-metastatic and anti-inflammatory agents.

Novel polymer synthesis: Our group has developed methods for the synthesis of co-polymers of poly lactic acid with a view of modifying the bulk properties of this ecologically important and valuable material.

Design and synthesis of peptidomimetic foldamers: Related to our work on new polymers, we have developed synthetic tools to access...

Topics in which you would like to develop collaborative research:

Study and applications of new eco-friendly materials, application of phosphatise activated drug agents.
Relevant existing collaborations (academic/clinical/commercial) inside or outside China.

GlaxoSmithKline: Unravelling the role of dietary phytosterols in cancer; GlaxoSmithKline: Role of SHIP-1 in cancer and inflammation;

Relevant graphics, figures, pictures:

The most concise synthesis of proapoptotic modulator 7-deoxy-trans-dihydronarciclasine (Synlett, 1940-1944, 2007)

Publications and other outputs relevant to your interest in this programme (up to 5)

For a complete list see Google Scholar profile: http://scholar.google.co.uk/citations?user=8indfylAAAAJ&hl=en


