

Date: Tuesday, November 3rd at 2pm
Venue: Chemical & Biomolecular Engineering Theatre

Speaker: Professor Greg G. Qiao
Department of Chemical and Biomolecular Engineering
The University of Melbourne

Title: **Design, Synthesis and Application of New Polymeric Architectures**

Conventional polymers, such as these used to form polystyrene cups or PVC pipes, are normally produced in a linear form. With the development of new controlled polymerization methods, synthesis of polymers with different architectures becomes possible. These new architectures can be made as block, star, multi-star, branched, tree-like or brush polymer forms. These different polymeric architectures can deliver new properties that conventional polymers can not. There is a clear link between the polymeric architecture made under a specific method and the function of the final products that polymer can provide. Those new forms of polymers provide new potentials for applications in areas such as automotive paints, nanostructured membranes, new biosensors, functional and responsive polymeric surfaces and advanced tissue engineering scaffolds.

This seminar will describe the basic design principles of making these new polymers architectures. It will use a number of new architectures we have developed in the recent years as examples to describe their synthetic process and to demonstrate how they are used in specific applications. The following figures show some examples of these specific polymeric architectures.

