

Special Seminar

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“Manipulating controlled radical polymerization to control architecture, functionality and morphology”

In this talk the development of new controlled radical polymerization strategies will be presented, including atom transfer radical polymerization (ATRP), reversible addition-fragmentation chain transfer (RAFT) polymerization and emulsion polymerization. These synthetic strategies give access to advanced materials consisting of hydrophilic, hydrophobic, semi-fluorinated and functional segments. Although traditional polymerization strategies require various parameters to be optimized to achieve a high degree of control over molecular weight and dispersity, this work demonstrates that one set of universal conditions can be achieved. These universal conditions result in efficacious polymerization of different classes of monomers, including acrylates, methacrylates and styrene. The facile nature of these conditions, combined with readily available reagents, will greatly expand the availability of tailored polymeric materials to all researchers. Ultimately, the synthesis of complex, sequence-controlled multiblock copolymers will reveal advanced materials that exhibit unique characteristics and morphologies.

**Monday, January 22 at 3:30 pm
Room 1315 Chemistry**