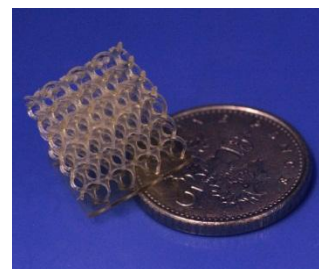


Degradable Biomaterials and Sustainable Polymers

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The development of novel degradable biomaterials is largely restricted by the paucity of well-defined functional degradable polymers. Hence, one focus of our research is the synthesis of new materials that are able to be specifically tailored to a range of applications. To this end, we are interested in designing and synthesizing novel degradable materials, in which many of the starting materials are derived from sustainable resources. In turn, this work leads us to investigate the development of novel catalyst systems as well as applying metal-free 'click' chemistries.

The novel materials enable their study in advanced application in biomedicine. Our research is focussed on understanding and controlling the properties of our materials on all length scales. From the development of new materials with precisely tailored macroscopic mechanical and degradative properties as well as biological interactions, to the 3-dimensional control of structure at the micron-scale (see picture) as well as the controlled nanoscale assembly to provide novel materials, hydrogels, scaffolds and nanoparticles for tissue engineering, regenerative medicine and drug/gene delivery applications.



SELECTED RECENT PUBLICATIONS

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