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New concept of resorbable biopolymer hybrids for implant applications

This presentation will introduce new concepts on design and development of resorbable biopolymer hybrids for implant applications. It will report the principles of design and formulations of resorbable biopolymer hybrids, industrial practice of implant development and clinical considerations of medical devices. The main topics covered in the presentation include: New concepts of resorbable polymer hybrids for medical applications; synthesis of resorbable bio-copolymers with tailored mechanical properties and degradation rate, copolymers of which include polylactide, polycaprolactone and poly(ethylene glycol); synthesis of resorbable phosphorus/silicon-based bioglasses; design and development of resorbable polymer hybrids consisting of organic and inorganic nano-composites; therapeutic polymer hybrids: drug-loaded resorbable polymer hybrids; clinical and bio-evaluations of drug-loaded resorbable polymer hybrids and case study: New medical implants and future development.

Biography

Xiang Zhang is a Royal Society Industry Fellow of University of Cambridge, and has over 33 years combined academia (17 years) and industrial (17 years) experience. He is an expert in polymer and polymeric hybrid materials science and technology, and Head of Medical Materials and Devices. He is the author of three books "*Inorganic Biomaterials*", "*Inorganic Controlled Release Technology*" and "*Science and Principles of Biodegradable and Bioresorbable Medical Polymers-Materials and Properties*". As a Materials Scientist, he is passionate on "Science for Industry". He undertook his PhD and Postdoctoral research at Cranfield University where he studied materials physics and micro-mechanics and micro-fracture mechanics of polymeric hybrid (organic and inorganic) materials. After spending a further four years on research for industrial applications, he was awarded an Industrial Fellowship at the University of Cambridge in 1995. His industry experience was gained in leading an international healthcare company, where, as Principal Scientist and Principal Technologist, his work covered almost all aspects of medical materials and devices from R&D and manufacturing support to failure analysis and QC. Prior to joining Lucideon, he worked as Director of a technology company, in the field of nano-conductive materials and diagnostic medical devices.

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